Reviewed: New Power Mac, 17-inch iMac, 20GB iPod, Xserve

NOVEMBER 2002
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MacAddict

SPECIAL HANDS-ON REPORT:

NEW MAC & JAGUAR

Inside the New Power Macs

TESTED: Speed That Will Blow Your Mind
DISSECTED: What Makes Them So Fast

Living With OS 10.2 Jaguar

EXPLAINED: Feature-Filled and Fun to Use
ANALYZED: Expensive? Yeah, But Worth It

WIN A NEW POWER MAC
p.95

THE ULTIMATE MAC ENTERTAINMENT EXPERIENCE

How to make your Mac the heart of your home entertainment center.

BLOG ON!

Foist your righteous opinions on the world with your own OS X Weblog.

REVIEWED:
JBL Creature speaker system, Star Wars: Galactic Battlegrounds, EyeTV vs. MyTV, ThinkFree Office, CanoScan LiDE 30 scanner, Clive Barker's Undying, CoolMac Keyboard, FirstEdge, and more...

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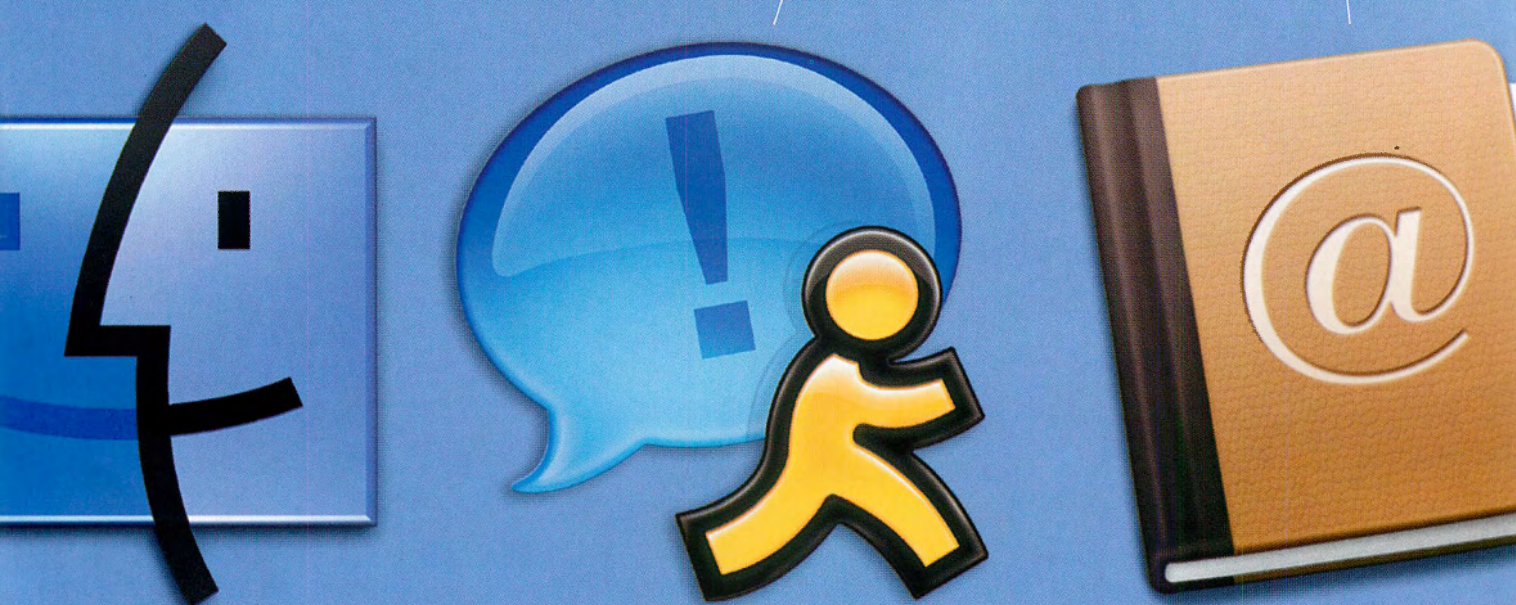

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FEATURES

COVER STORIES

20 The New Power Macs: Inside and Out

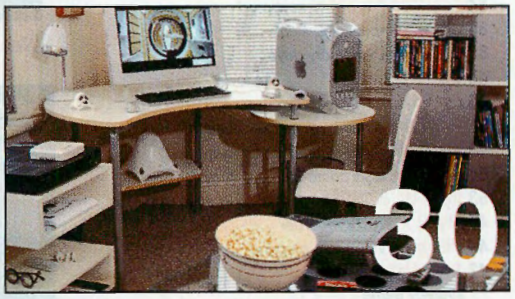
Dual processors, dual Level 3 caches, dual hard-drive buses, dual RAID capability, dual display ports, dual optical-drive bays—the all-new, all-dual Power Mac G4s are here, and we show you all the techie geeky good stuff inside. **by Rik Myslewski**

24 Up Close and Personal with Jaguar

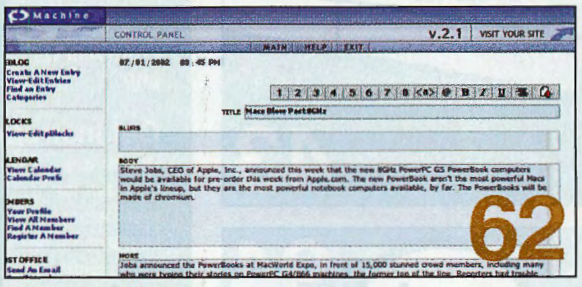
Debating whether to spend $129 on Mac OS 10.2 (aka Jaguar) or on 13 six-packs of Sapporo Premium Draft? Then check out our in-depth, hands-on guide. We love beer as much as we love the Mac, so you can trust our opinions to be unbiased. **by Niko Coucouvanis, Cathy Lu, and Ian Sammis**

30 Kick Back with Your Mac

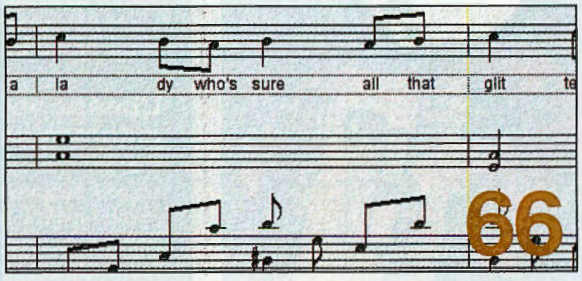
Your Mac may already be the hub of your digital life, but it can also be the core of your home-entertainment center. We show you the latest TV tuners, wide-screen monitors, projectors, and speakers. **by Kristina De Nike**



Our swingin' MacBachelor MacPad: Prepare to be amused.



Captain's Blog, Star Date 2002...



"Stairway to Heaven" or "Highway to Hell"—the choice is yours.

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Learn how to use FSCK, how to transfer fonts to Mac OS X, and how to rub out red-eye. Also, protect your Mac from lightning, rid your Dock of that pesky question mark, and more. **by Buz Zoller**

62 Create and Serve Your Own High-End Blog

Looking for a new dub-dub-dub home now that your Mac.com site has self-destructed? We show you how to create a Weblog site and serve it up via Mac OS X. **by Todd Stauffer**

66 Make Your Mac Sing

Though *American Idol* contestants have nothing to fear, you can make your Mac sing anything. We show you how. **by Kris Fong**

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He's been a good buddy for over 18 years, and now he's unemployed.

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Apple's busily gobbling up juicy software companies—but why? Small-business owners will delight in a new version of QuickBooks for Mac. Boarders will be stoked about a new shareware snowboarding game. Gamers will go gaga over all the Macs at QuakeCon. Plus we bring you wireless cafes, AOL for X, and more.

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The best of the best from recent reviews. If the editors of *MacAddict* went shopping, this is what we'd buy.

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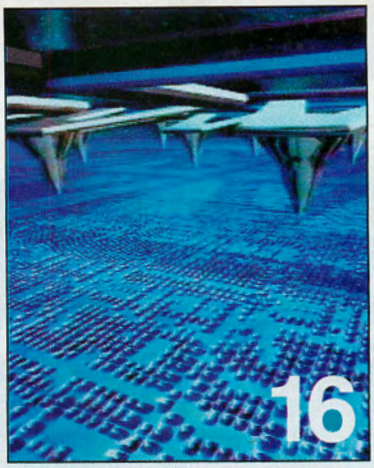
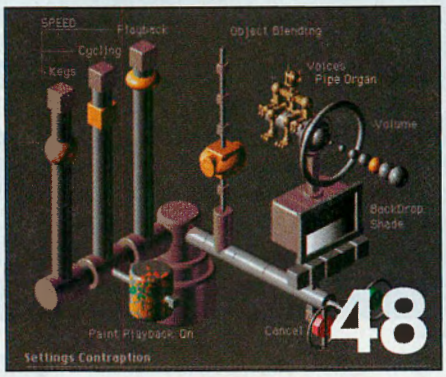
Put your design skills to the test. Here's your chance to design a T-shirt and win a brand-new Power Mac G4.

96 Shut Down

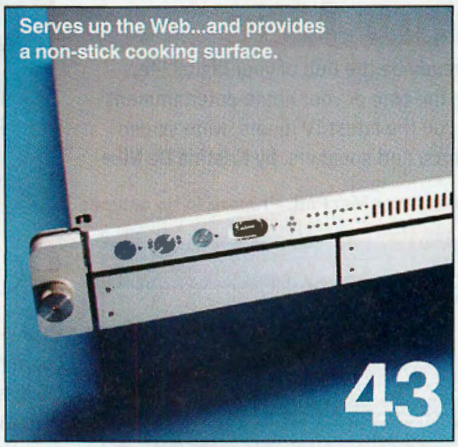
Jaguar. The name of the newest version of Mac OS X conjures up images of power and grace—but what other names did Apple's marketing gurus consider?



Giant robotic chickens began to peck their way through the 'burbs...



Wanna play The Sims Oil Refinery?



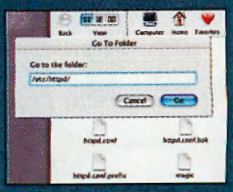
Max-imum accordion!

QUICK TIPS

...from this month's issue.

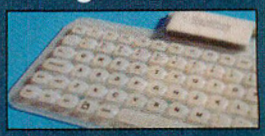
Find files fast.

Use OS X's Go To The Folder search to get to files faster than navigating through your folder forest. **From "Create and Serve Your Own High-End Blog," p62**



Solve your drinking problem.

If spilt milk—or coffee or beer—has cost you more than a couple of replacement keyboards, the silicon-cast, water-resistant, and totally washable CoolMac Keyboard can help. **From *Reviews*, p54**

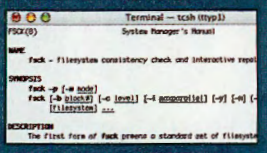


Personalize your iChat icon.

You can use any image as your iChat icon—simply drag the image file onto the existing icon, and iChat will resize it for you. **From "Up Close and Personal with Jaguar," p24**

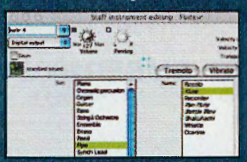
Use OS X's built-in disk utility.

From the Terminal, you can use the FSCK Unix command as a Norton Disk Doctor alternative to check and repair your file system. **From *Ask Us*, p60**



Get instruments cheap.

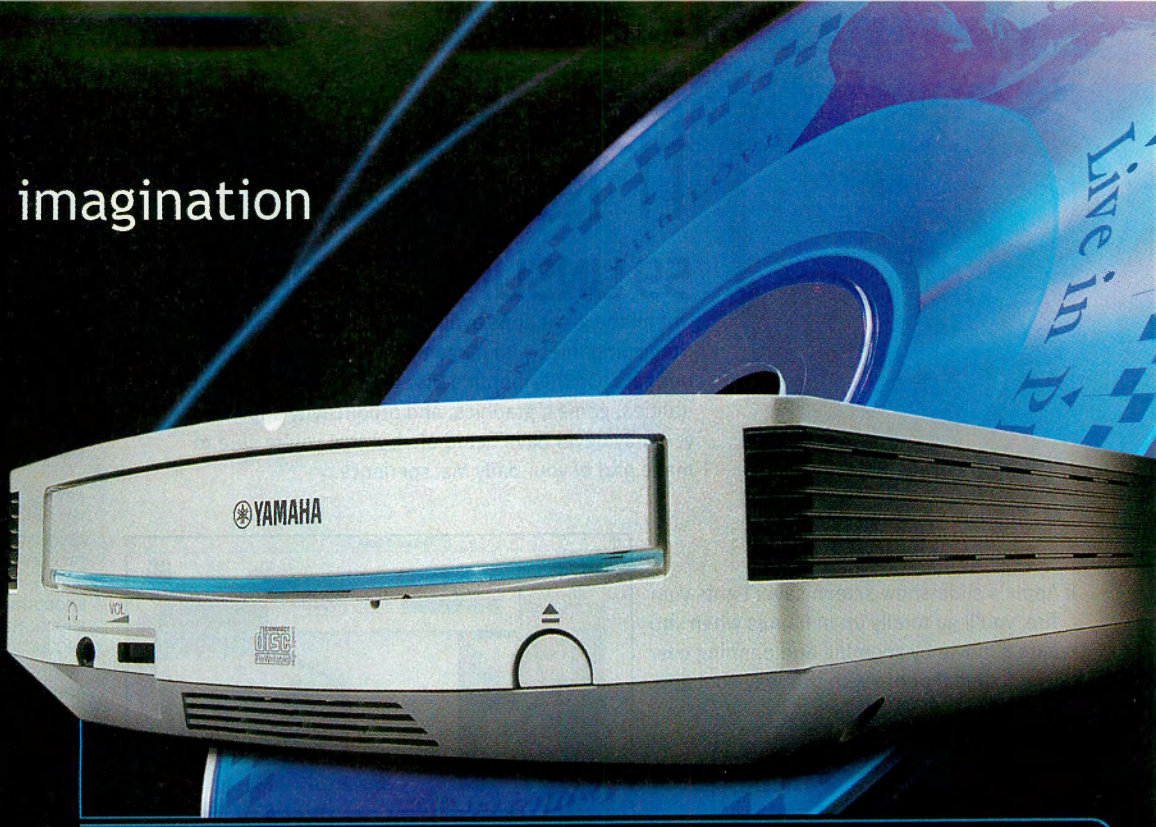
Don't have the cash for real musical instruments or audio samples? A $15 copy of Melody Assistant buys you an orchestra, a rock band, and then some. **From "Make Your Mac Sing," p66**



Change your desktop automagically.

In Jaguar, you can set your desktop to change images as often as you want. **From "Up Close and Personal with Jaguar," p24**

stretch your imagination



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theDisc

59 UNSUNG HEROES

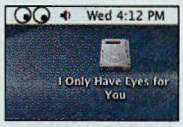
Not all the great apps available for your great Mac are from companies with megamillion-dollar marketing budgets. On this month's Disc we give you dozens of utilities, games, graphics, and productivity apps that you may never have heard of—but that you're sure to make part of your daily Macsperience.

Photo To Movie 1.0.5

If Apple's slide-show screen saver lights your fire, you'll go totally up in flames when you create a movie by zooming and panning over a digital photo with this way-cool app.

groBoto 1.6 Trial

This 3D art-synthesis app involves some tricky physics under the hood, but to you it's a powerful, versatile, and just plain fun tool for creating organic-looking images.



Eyeballs—those friendly menu-bar eyes that followed your cursor in the days of old—are back for Mac OS X.

Cuppa reminds you when to take the teabag out of your cup. Useful? Maybe. Fun? Definitely.

This month the *MacAddict* Army continues its tour of Mac Expo New York 2002, including a Steve sighting at the opening of the *très chic* Manhattan Apple store.

theList

AUDIO & MUSIC
Harmony Assistant 8.0.5
Harmony Assistant X 8.0.5
iHam on iRye 1.1.1 (Classic)
iHam on iRye 1.1.1 (OS X)
Melody Assistant 6.0.5
Melody Assistant X 6.0.5
MetroGnome 0.1.5 (OS X)
Peak 3.1 *trial*
Stave Jobs 1.2.1 (OS 9)
Stave Jobs 1.2.1 (OS X)

DEVELOPMENT
MySQL 3.23.51 (OS X)
MySQL 3.23.51 (Jaguar)
pMachineFree 2.1
REALbasic 4.5 *trial*
REALbasic 4.5 (OS X) *trial*

FUN & GAMES
Bag of Unusual Strategy Games 1.1 (OS X)
BridgePro 1.0.0.13 *trial*
Cave Dig 3 1.1
Change My Image 1.0.3 *demo*
Fakie Flair Challenge 1.0
Fakie Flair Challenge 1.0.2 (OS X)
Gravitass 1.01 (OS X)
Marathon Resurrection b1.2
Slope Rider 1.0.1
Tiger's Eye Pub 1.1

GRAPHICS & MULTIMEDIA
Aquatint 1.0.1 (OS X)
AXELedge 1.5.3 *trial*
Can Combine Icons 3.0.4 (OS X)
groBoto 1.6 *trial*
Microcosm *demo*
Photo To Movie 1.0.5 (OS X)
Virtix Sample Effects 2

INTERFACE
BigFoot 2.0 (OS X)
Eyeballs 2.1 (OS X)
Snö (OS X)
WeatherPop Advance 1.4 (OS X)

INTERNET & COMMUNICATION
Caem 4.0.6
Caem 4.0.6 (OS X)
Internet Explorer 5.2.1 (OS X)
MacSniffer 1.0b1 (OS X)
Netscape 6.2.3 (OS X)

PRODUCTIVITY
AccountEdge 2 *trial*
AccountEdge 2 (OS X) *trial*
BBEdit 6.5.2 *demo*
BBEdit Lite 6.1.2
Blaze 1.5
Blaze 1.5.3 (OS X)
Cuppa 1.0.1 (OS X)
Haxial TextEdit 1.1
Office v. X *test drive*
ThinkFree Office 1.7.2 *trial*
ThinkFree Office 2 (OS X) *trial*

UTILITIES
Mactracker 1.7.1
Mactracker 1.7.1 (OS X)
Merger 1.0.3 (OS X)
Perfboard 2.1 (OS X)
ReKey 1.0 (OS X)
Scrapper 0.6 (OS X)
System Optimizer X 3.1
VueScan 7.5.43

SPONSORS
DriveSavers: Commercial maskK, LLC: BridgePro 1.0.013 *trial*
MYOB: AccountEdge 2 *trial*
MYOB: AccountEdge 2 (OS X) *trial*
REAL Software: REALbasic 4.5 *trial*
REAL Software: REALbasic 4.5 (OS X) *trial*

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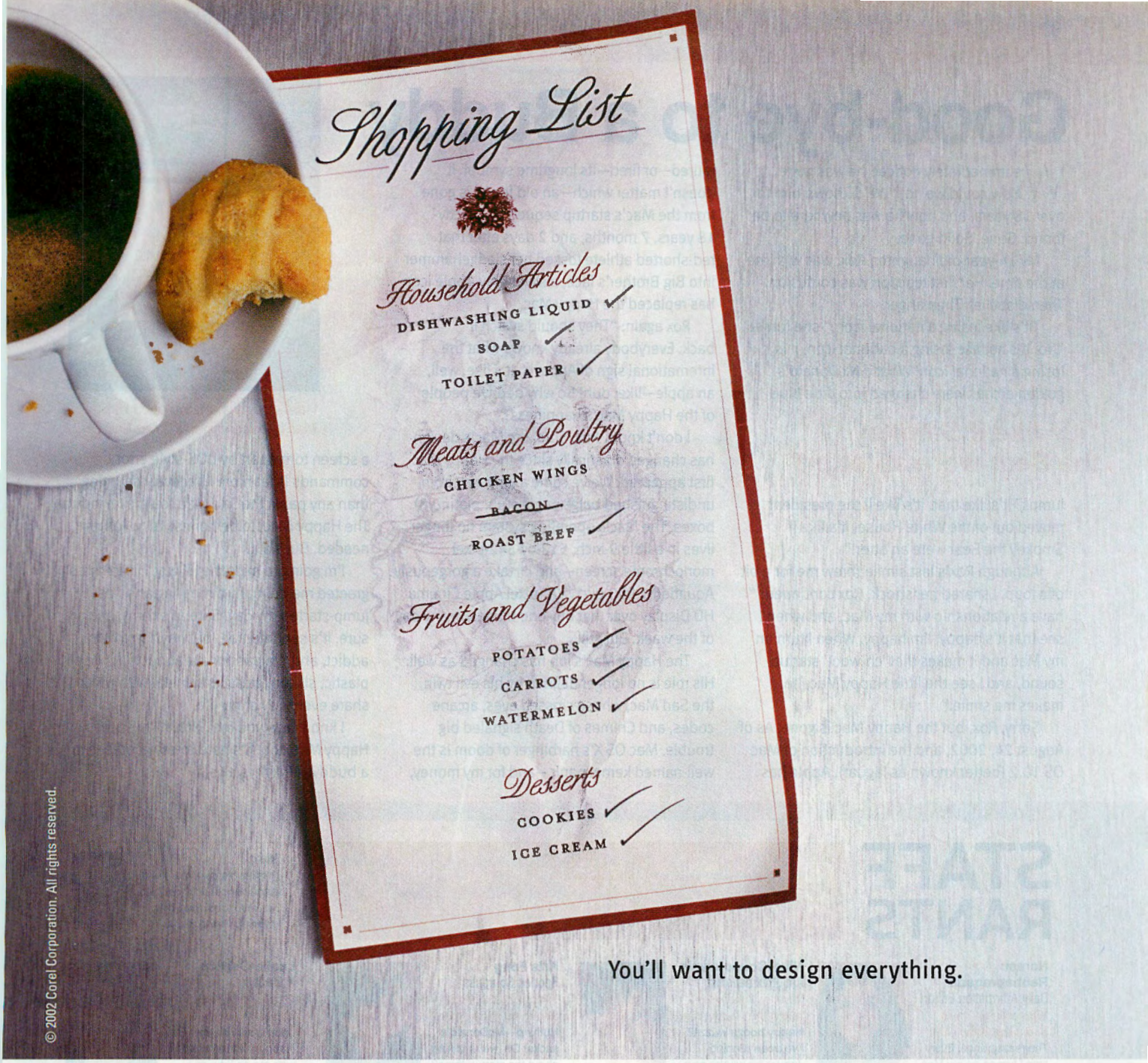

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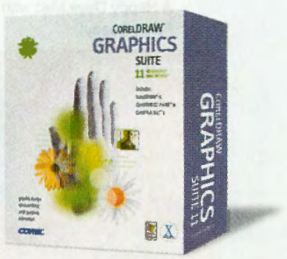

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Good-bye to a Buddy

We immediately noticed he was gone. How could we not? We'd known him for over 18 years, and now he was nowhere to be found. Gone. Solid gone.

My 14-year-old daughter, Rox, was with me at the time. Her first reaction was confusion. Then disbelief. Then anger.

"It's like losing a national icon," she fumed. "No, it's not *like* losing a national icon, it *is* losing a national icon! What if McDonald's golden arches were changed into little blue

"It's like if Smokey the Bear were an otter!"

lumps? It's like that. It's like if the president moved out of the White House. It's like if Smokey the Bear were an otter!"

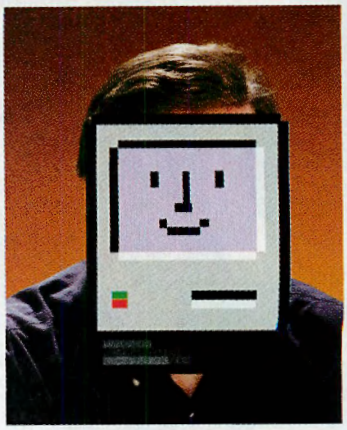
Although Rox's last simile threw me for a bit of a loop, I shared her shock. Rox continued: "I have a relationship with my Mac, and when I see that it's happy, I'm happy. When I turn on my Mac and it makes that 'ch-woo!' startup sound, and I see the little Happy Mac, he makes me smile."

Sorry, Rox, but the Happy Mac is gone. As of August 24, 2002, and the introduction of Mac OS 10.2 (better known as Jaguar), Apple has retired—or fired—its longtime symbol. It doesn't matter which—an old friend is gone from the Mac's startup sequence. Exactly 18 years, 7 months, and 2 days after that red-shorted athlete tossed her sledgehammer into Big Brother's face, a silver-gray Apple icon has replaced the Happy Mac.

Rox again: "They should switch it back. Everybody already knows what the international sign of Apple is: It's like, well, an apple—like, duh! So why deprive people of the Happy Mac's happiness?"

I don't know, Rox. Sure, the Mac's design has changed drastically since the Happy Mac first appeared. We've come a long way from undistinguished beige or gray (uh, platinum) boxes. The Mac's operating system no longer lives in a little 9-inch, 512-by-342-pixel monochrome screen—and I'll take a gorgeously Aquafied 1,920-by-1,200-pixel Apple Cinema HD Display over that tiny one-bit prison any day of the week. But still...

The Happy Mac's job has changed as well. His role is no longer defined by his evil twin, the Sad Mac, whose crossed eyes, arcane codes, and Chimes of Death signaled big trouble. Mac OS X's harbinger of doom is the well-named kernel panic—and for my money,



Here, the now unemployed Happy Mac is superimposed over Sad Rik.

a screen torn apart by DOS-style error commands is far more effectively daunting than any panic the Sad Mac could ever induce. The Happy Mac, to be honest, is no longer needed. But *still*...

I'm going to miss the lil' guy. His grin has greeted me on many a morning and has jump-started my day. Sure, it's corny, and sure, it's sentimental—but hey, I'm a Mac addict, and I'm passionate about that pile of plastic, silicon, glass, and metal with which I share every day of my life.

I know how you feel, Rox. I'll miss the Happy Mac, too. It's hard to say good-bye to a buddy.—*Rik Myslewski*

PHOTOGRAPHY BY MARK MAGEO

STAFF RANTS

Q1: What will you miss about the Happy Mac?
Q2: What do you think should replace it?

Max
I'll miss his carefree insouciance—I'm just glad he wasn't replaced by a grinning Stevie the J.

Narasu Rebbapragada
Daily Affirmation Editor

What will you miss about the Happy Mac?
The reassurance. Every time I turned on my Mac, the Happy Mac said, "I'm OK. You're OK."
What do you think should replace it?
A Happy Days Mac with a picture of the Fonz. Aaaay!

Niko Coucouvanis
Antiobfuscationist

What will you miss about the Happy Mac?
Happy hooza wuzza? I've been running Jaguar for weeks now and my Mac is just as happy as ever. But really, this anthropomorphization thing is getting out of hand.
What do you think should replace it?
How about an integrated coffeemaker so I can stick around and watch my Mac start up instead of pressing the power button on my way into the kitchen for a caffeine fix?

Kris Fong
Spotted Sourpuss

What will you miss about the Happy Mac?
Nothing—McDonald's sucks! Oh, we're talking about the startup thing? I'll miss its reassuring grin that seemed to say, "What did you expect—the bomb?"
What do you think should replace it?
An Aquafied version of Clarus the Dogcow that rolls over when you try to tip it. Or maybe Chester the Cheetah could be lured away from his Chee-tos contract.

Leslie Osborn
Knee Jerk

What will you miss about the Happy Mac?
I don't miss it—yet. The Happy Mac remains with me as long as I remain in my old-school Classic world. Thanks, Quark!
What do you think should replace it?
How 'bout a Mood-o-Meter, to let me know how much my 'puter feels like working at the beginning of each day. Since Jaguar is so speedy, though, we may have a few differences of opinion. Especially on Fridays.

G'day, Cyrus

As we say adios to the Happy Mac, we say hello to the newest member of our band—Cyrus Farivar, Intern Extraordinaire. For the past few weeks, he's been on the phone, on his stopwatch, on the ball, and on our prized dual 1GHz Power Mac—and sorry, Cyrus, you don't get to keep it when you return to UC Berkeley.
What will you miss about the Happy Mac?
Happy, happy, joy, joy!
What do you think should replace it?
A Macromedia-like wheely-dealy. Oh, wait...it's there.

Cathy Lu
Jaguar Wrangler

What will you miss about the Happy Mac?
The Happy Mac was calming, a sign that everything was good in the world (and on my Mac, of course). I'll miss that daily reassurance. I'll probably have to start taking Prozac now.
What do you think should replace it?
An unhappy PC.

Jenifer Morgan
aka Jeni Jetson

What will you miss about the Happy Mac?
Not so much; it was kind of a square, you know?
What do you think should replace it?
A food-item menu interface where I could order authentic-tasting Organic Twinkies, the creamy filling infused with folic acid, crushed flax seed, and 12 other essential vitamins and minerals.

Chris Imlay
Needs a Vacation

What will you miss about the Happy Mac?
The fact that it wasn't always happy. I could relate to its mood swings.
What do you think should replace it?
I like the new gray Apple logo with the 007 bomb timer just fine. I even wish they would replace that new lollipop beach ball with it.

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BUYING INTO THE BIG LEAGUES

Apple Acquires Pro Entertainment Companies

Apple (www.apple.com) has been quietly snapping up high-end video and audio companies for the past 18 months. These barely publicized acquisitions may seem insignificant on their own, but taken as a group, they show that Apple is going after big-time entertainment in a big way.

APPLE'S SHOPPING BAG

Apple began its multimedia-buying spree in April 2001 with Focal Point Systems. Apple used Focal Point's FilmLogic to develop its Cinema Tools ($999) add-on for Final Cut Pro 3. While Apple owns the DV-editing market, it's now going after filmmakers who use higher-end digital and film formats. Cinema Tools ups Final Cut Pro's 24-fps editing capabilities with film cut lists and 24-frame edit-decision lists for high-definition video.

In July 2001, Apple acquired Spruce Technologies and its DVD-authoring tools for $14.9 million in cash. While Spruce's products were Windows only, presumably Apple has incorporated or will incorporate them into its own iDVD ($19.95 upgrade) and DVD Studio Pro ($999) products.

In February 2002, Apple shook up the postproduction world and acquired Nothing Real and its Shake product for $15 million in cash. A high-speed compositing software for high-resolution special effects, Shake has been used in the production of Hollywood blockbusters like *The Lord of the Rings*, *Gladiator*, and *Titanic*. Apple recently announced Shake 2.5 ($4,950) for Mac OS X, which should be available by the time you read this.

In June 2002, Apple bought Prismo Graphics' DVFonts and India Pro titling tools. Apple also purchased Silicon Grail, which created the Chalice 2D film-compositing tool and the Rayz compositor. A Shake competitor, Rayz also offers effects and color-correction tools for Hollywood movies. In June Apple also bought Zayante, whose software provides FireWire connectivity for hardware devices. Apple paid a total of $21 million for the acquisition of these three companies. Apple's latest acquisition, announced in July 2002, is the German audio-software company eMagic, whose Logic Audio software is popular among professional musicians. Apple bought eMagic for $30 million in cash.

So why would Apple invest upward of $80 million in niche video and audio companies? Given Apple's reported $1.24 billion in cash in the third fiscal quarter of 2002, the expense wasn't huge, and what Apple gets out of it may be well worth the cost.

A IS FOR ACQUISITION

April 2001	July 2001	February 2002	June 2002			July 2002
Apple buys Focal Point Systems for its FilmLogic film-editing tool.	Apple buys Spruce Technologies for its DVD-authoring tools.	Apple buys Nothing Real, which produces the Shake compositing software.	Apple buys DVFonts and India Pro titling software from Prismo Graphics.	Apple buys Silicon Grail, whose Rayz compositing software competes with Shake.	Apple buys Zayante for its FireWire device technologies.	Apple buys eMagic and its popular professional audio software, Logic Audio.

QUICKBOOKS REVAMPED

New 5.0 Version Finally Announced

For the first time since 1996, Intuit will release a new version of QuickBooks for Mac ($179.95 expected price, www.quickbooks.com) in early 2003. Despite its lack of development, QuickBooks Pro 4.0 for Mac ($199.95) has been the best-selling accounting software for the Mac until recently, when MYOB became the number-one provider of Mac accounting software with its FirstEdge ($99, www.myob.com/us) and AccountEdge ($249) products. There's no word yet on what new features to expect.

MotoGP Cybiko is the safe way to drive with your cell phone.

CALLING ALL GAMERS

New Titles for Mobile Phones

Stop yakking and start playing. New cell phones with fast data-download times, color screens, and even joysticks are ripe for gamers on the go. These cool games should be available by the time you read this.—*Carrie Shepherd*

SPRINT

www.sprint.com/mr
Requirements: 3G-enabled PCS phone
Price: Not available yet

Flicky As a bluebird, you must rescue baby chicks from the evil Meow.

World Wrestling Entertainment Mobile Madness Punch, kick, spin, and body-slam World Wrestling Entertainment superstars.

Sega Monkey Ball This popular GameCube game has you guiding a sphere-encased monkey.

Collect bananas and avoid pitfalls in Sega Monkey Ball.

[fact] ACCORDING TO NIELSEN/NETRATINGS, 70.2 PERCENT OF MAC USERS ONLINE HAVE A COLLEGE OR POSTGRADUATE DEGREE, COMPARED TO 54 PERCENT OF PC USERS.

NO MORE WINDOWS

For one thing, Apple can now ensure that Windows users will never see another new version of these products again, a fact that has many in the industry hopping mad. While Apple will support existing versions of Shake, Rayz, and Logic Audio on other platforms, rest assured that new development will appear only on the Mac—and only in Mac OS X.

Apple can now drive the adoption of key Mac OS X technologies like Core Audio, whose Audio Units plug-in architecture is a brand-new way for developers to create standardized plug-ins compatible with all Mac OS X audio applications. (See "Core Audio Is King," right, for more information.) Sounds great, but right now few are biting. Before effects developers will adopt Audio Units over existing protocols, they need to see that the audio-software developers with whom they work are adopting it, too. Now that Apple is an audio-software developer, it can push the industry toward Mac OS X.

CAPTURING THE HIGH END

How Apple will incorporate these newly acquired products is not yet known. Some say Apple will use Shake and Rayz to beef up Final Cut Pro's compositing tools. Others—including Michael Gartenberg, research director of Jupiter Research—think Apple will keep the tools as separate software packages. "We're going to see a professional product lineup," he says.

Either way, it looks like Apple is targeting the video postproduction sector. Apple's Final Cut Pro is already the leader in nonlinear desktop editing, but adding compositing tools à la After Effects puts Apple in a position to appeal to this highly technical bunch of film professionals. "If Apple can come up with a no-compromises first-class editor and a no-compromises first-class finishing tool, there's a real market," says Ben Waggoner, *DV* magazine contributing editor and author of *Compression for Great Digital Video: Power Tips, Techniques and Common Sense*, which CMP Books should publish by the time you read this. While boutique companies characterize this industry, their purchasing power is anything but small. Waggoner estimates that a company might buy $30,000 in new equipment per year.

Time will tell what Apple plans to do with its newly adopted children, but it's clear that the company is not satisfied courting only the iMovie and iTunes users of the world. Apple's buying its way into the big leagues, one company at a time.—*Narasu Rebbapragada*

Apple is going after big-time entertainment in a big way.

CORE AUDIO IS KING

Why Mac OS X Audio Is Better Than Mac OS 9 Audio

1 Lower Latencies
Mac OS X reduces the time it takes your Mac to receive, process, and output audio to speakers, so you can hear audio recorded from a live source in near–real time.

2 Multichannel Support
Mac OS 9's Sound Manager supports only two audio channels. For more, you need third-party drivers. Mac OS X Core Audio natively supports a multichannel I/O, so you can feel more confident that your Mac OS X apps and hardware will work together. Plus, Core Audio lets multiple applications share the same sound card or device, so you can be running a multitrack recording program like Bias Deck ($399, www.bias-inc.com) while using an editing program like Bias Peak ($499).

3 Easy MIDI
The Mac OS X MIDI Setup Assistant defines a systemwide configuration for MIDI instruments to use with all your Mac OS X applications.

4 Plug-and-Play USB
Mac OS X will automatically recognize USB MIDI and audio hardware without requiring third-party drivers.

5 Standardized Plug-ins
Mac OS X has a system-level plug-in architecture (called *Audio Units*), so theoretically developers can create plug-ins using a common standard. Plug-in developers are waiting to see which audio software packages (like Apple's newly acquired Logic) support Audio Units before they jump on this bandwagon.

AT&T

www.attwireless.com/mmode
Requirements: Handset compatible with GSM or GPRS
Price: $2.99, $7.99, or $12.49 plus data-download charges

Kung Fu Pit one of six kung-fu masters against a computer or human opponent.
Star Trek: First Duty Here's your chance to become a Star Fleet officer. Complete a four-year training course, and you're on your way.
Steve Jackson's Sorcery This mobile RPG brings spells and elves together.
Air Aces Experience dogfights in a WWI biplane in this two-player air-combat game.

Make it so, on the go.

VERIZON WIRELESS

www.verizonwireless.com
Requirements: Verizon Wireless Z-800 and Kyocera 3035e
Price: $1.25 per day to $7.25 per month

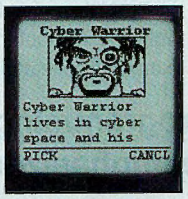
EA Sports 2002 FIFA World Cup Check out the footie action and authentic player rosters from a top-notch sports-game developer. (Kyocera 3035e can't run this title.)
Magic Date Ball Ask the ball a yes or no question to solve your dating conundrums.
Puzzle Penguin As Puck the penguin, you move heavy blocks of ice onto heating elements to clear caverns.

Let's hear your phone say "Goooal!"

CINGULAR WIRELESS

www.cingular.com/beyond_voice/games
Requirements: Wireless Internet and compatible phone (see Web site for list of models)
Price: $0.99 per game

Street Brawl II Beat up human or computer opponents with the right combination of offensive and defensive moves.
Buzztime Trivia Up to ten players can match wits in a real-time trivia contest.
Interpol Travel internationally to track down the art thief who stole the *Mona Lisa*.



Sometimes it's better if you can't see your opponent.

DROOLWORTHY

Sexy Stuff We Can't Wait to Get Our Mitts On

The Aquos can hang vertically like a bat, in case you're a vampire or something.

Aquos Wide-screen TV

Sharp Electronics www.sharpusa.com $7,999.95

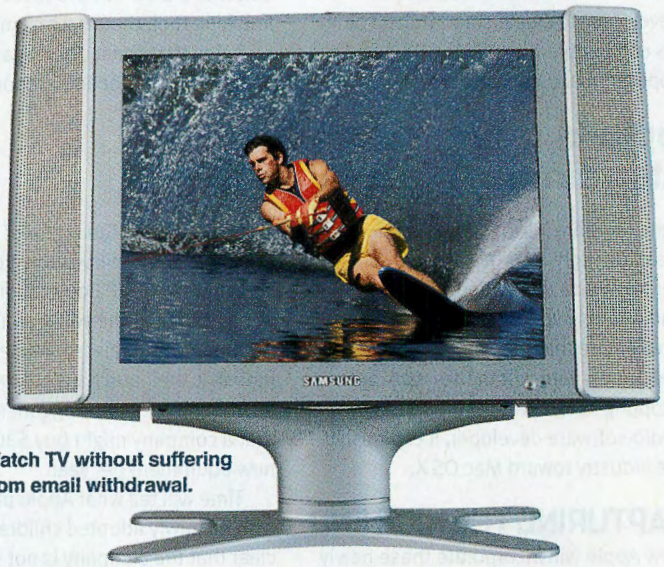
No more glare. Sharp Electronics' Aquos wide-screen 30-inch LCD TV is superbright, with a 170-degree viewing angle. The energy-efficient 3-inch-deep display is HDTV ready; has a built-in 181-channel TV tuner, S-Video, and RCA inputs; and connects to your Mac with a VGA connector. If you want to wall-mount your TV, you can detach the stand, and the Aquos image inverter lets you rotate the picture if you want to hang it vertically.—*Whitney Hess*

PHOTOGRAPH COURTESY OF SHARP

LCD Wide-screen TV

Samsung Electronics www.samsungelectronics.com
$1,499 (15-inch display), $2,099 (17-inch display)

Thin, pretty, and smart, Samsung Electronics' 15-inch and 17-inch LCD-TVs let you watch TV or video via DVD-input, S-Video, or RCA connectors, *and* work on your computer. These 2.2-inch-deep displays are HDTV- and DTV-ready, have a built-in 181-channel TV tuner, and connect to your Mac with a VGA adapter. The displays come with a tilt stand, but their wide viewing angles make them perfect for wall mounting.
—*Whitney Hess*



Watch TV without suffering from email withdrawal.

PHOTOGRAPH COURTESY OF SAMSUNG

RETURN TO CASTLE QUAKECON

Macs Attack at Annual Gaming Show

It had drama, it had thrills, and most important, it had Macs. QuakeCon 2002, id Software's (www.idsoftware.com) annual meet-and-greet session with eager fans, was the biggest and best yet, attracting over 3,000 enthusiastic gamers to the company's sleepy hometown of Mesquite, Texas.

Best known for developing the famous Quake, Doom, and Castle Wolfenstein shooter series, id Software hosted a four-day gaming extravaganza featuring ATI's Quake III: Arena and Return to Castle Wolfenstein championship tourneys. A cool $20,000 went to overall Quake III champion LeXer, while the Doctors clan scooped the competition in Wolfenstein to earn a team payday worth 25 grand.

Programming god John Carmack reemphasized his commitment to OS X.

QuakeCon's four straight days of gaming fun keeps dudes like these off the street.

PHOTOGRAPH BY CHUCK OSBORN

Mac game publisher Aspyr Media (www.aspyr.com) hosted a sprawling booth, which allowed attendees to free-play Return to Castle Wolfenstein and Jedi Knight II on 44 shiny dual-gigahertz G4s with Cinema Displays. The company also contributed iMacs with AirPort to handle the busy QuakeCon registration process.

How busy was it? For the first time in QuakeCon history, the Bring Your Own Computer (BYOC) area of the show was filled to capacity, and by day two a sign reading "Sorry, BYOC full" greeted new attendees.

The climax was the id team's presentation of Doom III, which concluded with a keynote from programming god John Carmack. During his nearly two-hour chat, Carmack reemphasized his full commitment to the Mac OS X platform, while acknowledging that Doom III performs a little more sluggishly on Power Macs than on PCs.—*Chuck Osborn*

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WIRELESS STANDARDS...

...and the People Who Love Them

International iFolk tote cell phones that travel abroad, download music, and talk to computers. Not you, though, since U.S. wireless carriers have been slow to adopt these cell-phone bells and whistles. Not anymore. Check out the new technologies coming to a phone near you. Here's what they mean and who might look good wearing them.—*NR*

Technology	What It Means	What It Does	Who It Befits
TDMA	Time Division Multiple Access	This standard is becoming a has-been now that wireless providers are phasing out TDMA networks in Europe, Latin America, and North America in favor of the popular GSM standard.	Tony Danza: C'mon, I'm still the boss of late-night cable.
CDMA	Code Division Multiple Access	The Qualcomm-developed CDMA standard competes with GSM. Seeing that only 11 percent of the world uses CDMA, it seems to be losing out.	Steve Jobs: I wish I had 11 percent of the market.
GSM	Global System for Mobile Communications	Most of the world operates on GSM's four frequencies: 800MHz, 900MHz, 1,800 MHz, and 1,900MHz. A triple-band phone like the Sony Ericsson T68i, which operates at the top three frequencies, will better your chances of placing a call overseas.	Colin Powell: They love me at home, they love me overseas.
GPRS	General Packet Radio Service	GPRS is the data equivalent of GSM and the standard Apple will use to support iSync. GPRS networks can potentially move data at a peak rate of 115 Kbps—great for downloading concert tour dates but not the concert itself.	Carl Lewis: I used to be fast.
PDC	Personal Digital Cellular	Some 9 percent of the wireless world, primarily in Japan and to some degree in Korea and Taiwan, uses this standard. iMode is NTT DoCoMo's wireless Internet service based on the PDC standard.	Ayumi: I swear I'm famous in Japan.
Wideband CDMA	Code Division Multiple Access	Wideband CDMA is the Qualcomm 3G (third-generation) standard that GSM networks are looking to adopt, promising speeds of up to 2 Mbps. Japan's NTT DoCoMo is migrating to wide-band CDMA.	Serena Williams: I'm number one! I'm number one!
CDMA2000	Code Division Multiple Access 2000	Qualcomm's other 3G voice and data standard has peak data-transfer speeds of 144 Kbps and will evolve to 2 Mbps.	Venus Williams: I'm number two! I'm number two!
EDGE	Enhanced Data Rates for GSM Evolution	EDGE is the 3G standard that was to evolve out of TDMA, but its speeds are only 384 Kbps, so it will probably lose out to 3G CDMA standards.	Anna Kournikova: I'm not as good, but I'm better looking.
Wi-Fi	Wireless Fidelity	Wi-Fi is essentially 802.11b (that's right, AirPort). Current mobile phones don't utilize Wi-Fi, but engineers are working on it.	Samuel L. Jackson: I am the ultimate badass.
Bluetooth	Bluetooth wireless technology	This short-range signal for mobile devices is finally coming into its own. Apple recently announced that Jaguar's iSync transfers data from iCal to Bluetooth devices.	Denzel Washington: Finally, I get the recognition that I deserve.

NEWSTUFF

Zip 750MB FireWire Drive

Iomega, www.iomega.com, $199
Available: Fall 2002

Iomega's new 750MB Zip disks and drives are durable alternatives to comparably priced external hard drives. At about $13 each, 750MB Zip disks offer a cheap solution for those looking to archive projects and files.

The latest Zip drive bumps up storage to 750MB per disk.

Epson Stylus Photo Printers

Epson, www.epson.com, $199 (Stylus Photo 825), $299 (Stylus Photo 925), $399 (Stylus Photo 960)
Available: Now

Epson's Stylus Photo 825 and 925 print straight from CompactFlash, SmartMedia, and Sony Memory Sticks. The 925 prints border-free and comes with a roll-paper automatic cutter. The Stylus Photo 960, the top of the line, uses a tiny 2-picoliter ink droplet for more-precise prints. All printers are six-color and connect to your Mac via USB.

xD Picture Card

Olympus Optical (www.olympus.com) and Fujifilm (www.fujifilm.com), $19.95 (16MB), $109.95 (128MB), pricing unavailable on 256MB and above
Available: Now

Olympus and Fujifilm announced a new type of memory card with the potential to hold up to 8GB of images. Currently, 16MB and 128MB sizes are available, with a 256MB size planned for the end of the year and 1GB to 8GB sizes expected sometime next year. Used with a CompactFlash adapter, the xD Picture Card is compatible with any CompactFlash-supported camera.

Formac Studio DV

Formac, www.formac.com, $289
Available: Now

This FireWire analog-to-DV converter lets you import video directly into Apple's Final Cut Pro ($999, www.apple.com), Apple's iMovie ($49), and Adobe's Premiere 6 ($549, www.adobe.com).

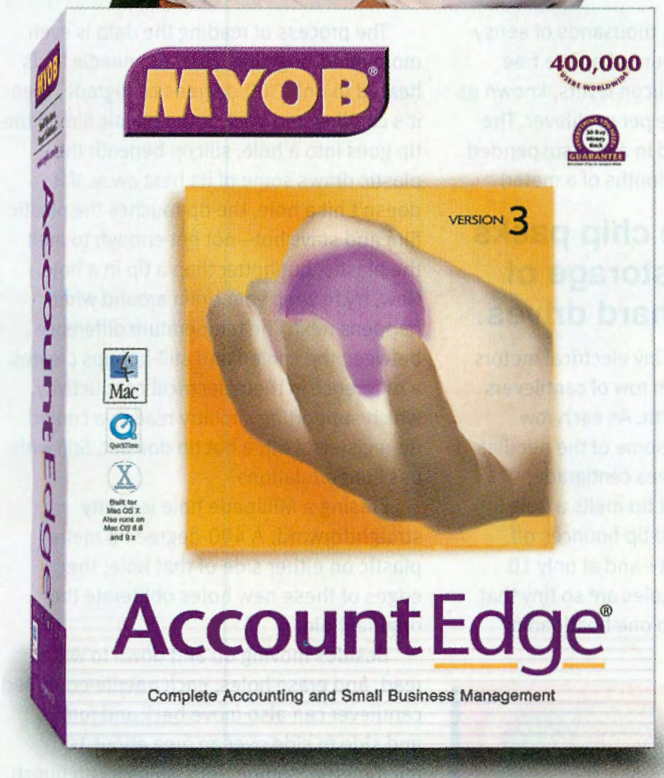
YOU'VE GOT X

AOL for Mac OS X Released

In August 2002, America Online released AOL for Mac OS X. AOL has Mac-ified its software from the ground up with new features, such as an email and instant message counter in the Dock, a new Netscape Gecko Web browser, QuickTime-viewable streaming video and audio, and AIM (AOL Instant Messenger) compatibility with Apple's iChat.

CONFIDENCE

is knowing you've got what it takes!



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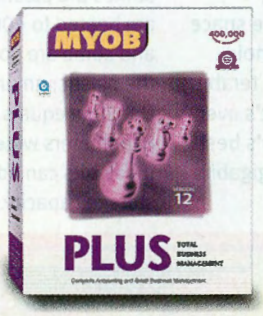

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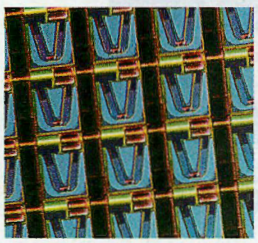
EXTREME STORAGE

Insane Storage Technology Provides Insane Storage Capacities

The year is 2006. You just bought Apple's newest iPod with a high-res, full-color LCD display. Into it you pop a cartridge about the size of a postage stamp, and you have instant access to dozens of full-length movies. Insert another cartridge, and choose from 50,0000 500-page books.

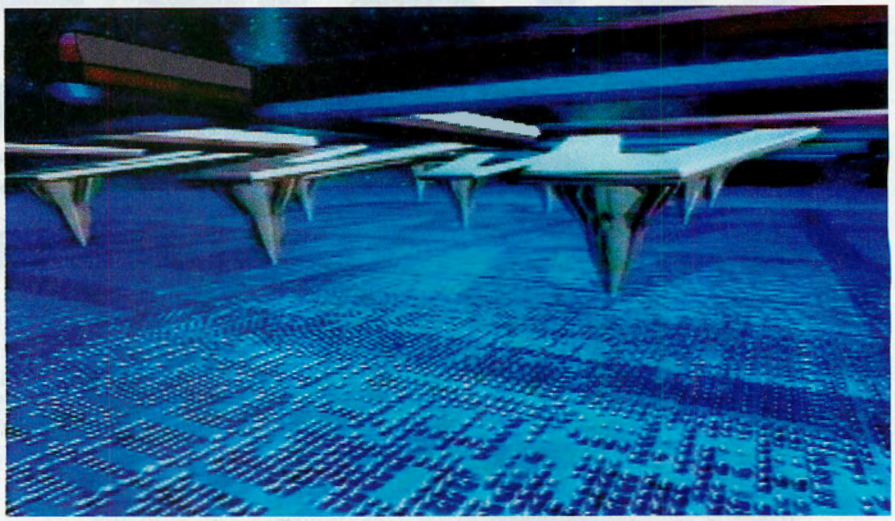
The video iPod may be only wishful thinking, but the staggering storage advance isn't. Dubbed "Millipede" by the IBM engineers who created it, this real-life breakthrough technology could pack 60,000 songs on a space as small as the magnetic disk spinning in your iPod's hard drive—and do so in a way that's nothing like today's hard-drive technology.

The way Millipede works is analogous to how bits and bytes were stored in the dark ages of computing (think 1960): as holes punched into cardboard punch cards. Back then, one hole equaled one bit. Where Millipede drastically differs is that it's small—really, really small. The Millipede card is a ludicrously thin plastic film, and the punch is a silicon needle approximately 2 nanometers (2 billionths of a meter) thick at its tip; 3 billion Millipede holes can fit into the space of just one old-fashioned punch-card hole.



Each of these minuscule V-shaped cantilevers is a scant 50 micrometers (millionths of a meter) long—and yes, this is an actual photo.

The result is a chip that can pack 1 terabit (1 trillion bits) into 1 square inch. That's over 20 times the storage capacity of today's best hard drives, which max out below 50 gigabits (50 billion bits) per square inch.



No, it's not a flock of robot woodpeckers—this illustration shows Millipede needles poking information-storing holes into a thin plastic film.

On a Millipede chip, thousands of eensy-weensy needles are mounted on the free ends of thousands of silicon levers, known as cantilevers—one needle per cantilever. The cantilevers are arranged in a grid suspended a few micrometers (millionths of a meter) above the plastic film. Tiny electrical motors minutely maneuver each row of cantilevers up, down, back, and forth. As each row strikes the plastic film, some of the needles are heated to 400 degrees centigrade, and some are not. A hot tip melts a hole in the plastic; an unheated tip bounces off. One hole equals one bit—and at only 10 nanometers wide, the holes are so tiny that these bits can add up to one boatload of storage capacity.

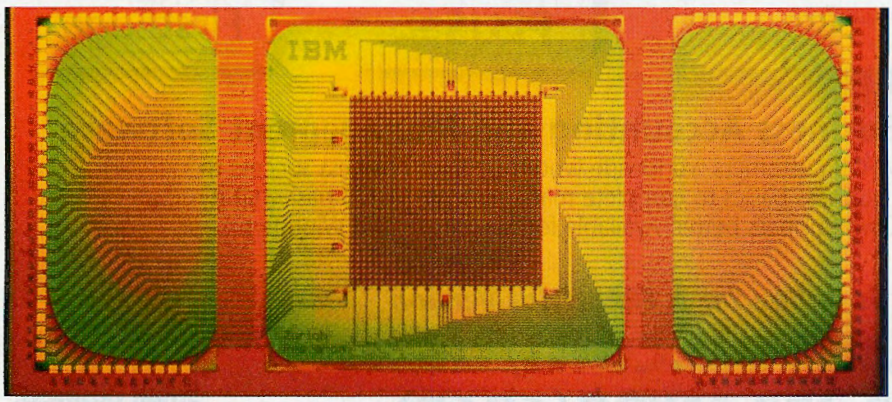
The Millipede chip packs 20 times the storage of today's best hard drives.

The process of reading the data is even more mind-boggling: First, the needle tip is heated to only 300 degrees centigrade, then it's cantilevered back at the plastic film. If the tip goes into a hole, silicon beneath the plastic draws some of its heat away. If it doesn't hit a hole, the tip touches the plastic film and stays hot—not hot enough to melt the plastic, but hotter than a tip in a hole. Now, try to wrap your brain around what happens next: The temperature difference between the cooled and still-hot tips creates a difference in their electrical conductivity, which supporting circuitry reads—a cooled tip registers a bit, a hot tip doesn't. Still with us? Congratulations.

Erasing a Millipede hole is pretty straightforward: A 400-degree tip melts plastic on either side of that hole; the edges of these new holes obliterate the original hole.

Besides moving up and down to write, read, and erase holes, each needle-equipped cantilever can also move back and forth and side to side over an area about 100 micrometers square, into which it can punch many thousands of holes. Current Millipede designs have 1,024 cantilevers; under construction are 4,096-cantilever models.

When will Millipede storage chips hit the market? Developers first need to iron out many problems—such as how to build the tiny suckers reliably and cheaply—but the smart money says the year 2005 looks possible. Get ready to toss out your archaic hard drives and memory cards.—*Rik Myslewski*



This tiny chip houses a whole new way of storing data—and lots of it.

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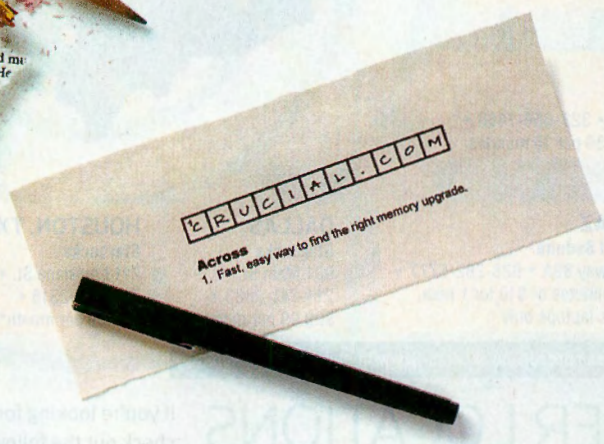

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Price reflects an automatic 10% discount for ordering online. Prices may vary according to specific system requirements. The price listed was valid on 8/23/02 when we sent this ad to the publisher; however, prices may have dramatically increased or decreased since then. Visit the FAQ section of Crucial.com to learn more about why memory prices go up and down.

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The worst thing about AirPort is going without it. The next time you're traveling around the United States, stop in at one of these cafes, hotels, or airports with AirPort wireless Internet access.
—Christopher Ott and Cyrus Farivar

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1278 Pennsylvania St. • 303-861-8638 • $2 per hour using the cafe's wireless card or free if you bring your own
Paris on the Platte (www.parisontheplatte.com)
1533 Platte St. • 303-455-2451 • Free

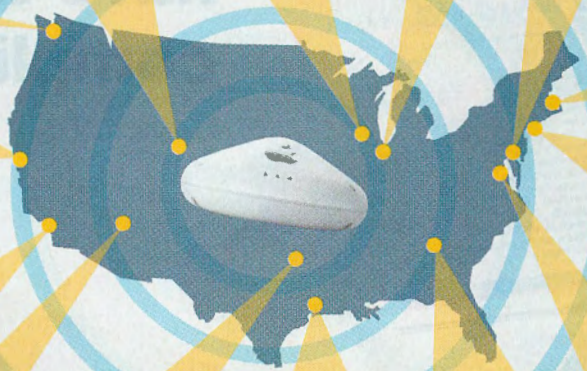
MADISON, WI
Michelangelo's Coffee House
114 State St. • 608-251-5299 • $11 per month plus onetime $15 setup fee (www.cafeconnection.net)

CHICAGO
While we found no official wireless cafes, check out the Web site of the **Chicago Wireless Developer User Group** (www.chicagowireless.org) for a list of city streets with wireless network access.

PHILADELPHIA
Embassy Suites Hotel
1776 Benjamin Franklin Pkwy. • 215-561-1776 • $10.65 per day

BOSTON
Trident Booksellers Cafe
332 Newbury St. • 617-267-8688 • Free

SAN FRANCISCO
Cafe Destijl
1 Union St. • 415-291-0808 • Free
Starbucks
123 Mission St. • 415-543-1510 • $29.99 per month*



NEW YORK
Cyber Cafe Times Square
250 W. 49th St. • 212-333-4109 • $4 for first 20 minutes and $0.16 for each additional minute
Bryant Park
(Yes, AirPort in the park) • Sixth Ave. between 40th and 42nd St. • Free

LOS ANGELES
Buzz Coffee
8000 Sunset Blvd. • 323-656-7460 • $10 per hour or $2.50 per 15 minutes

SEDONA, AZ
Ravenheart of Sedona
1370 W. Highway 89A • 928-282-5777 • $2.75 for 15 minutes or $10 for 1 hour, using provided laptops only

DALLAS
Starbucks
901 Main St. • 214-741-9833 • $29.99 per month*

HOUSTON, TX
Starbucks
711 Louisiana St. • 713-225-2318 • $29.99 per month*

ATLANTA
Four Seasons Hotel
75 14th St. • 404-881-9898 • $10.70 per day

WASHINGTON, DC AREA
Cyberstop Cafe (www.cyberstopcafe.com)
1513 17th St. NW • 202-234-2470 • Free
Rappahannock Coffee (www.rappahannockcoffee.com)
2406 Columbia Pike, Arlington, VA • 703-271-0007 • Free

*With a T-Mobile Wireless Broadband account (www.tmobilebroadband.com).

OTHER LOCATIONS

If you're looking for wireless locations in places not included here, check out the following information sources:

Surf and Sip (www.surfandsip.com) Search Surf and Sip's Web site for coffeehouses around the United States that offer wireless service.

T-Mobile Wireless Broadband (800-981-8563, http://locations.tmobilebroadband.com) T-Mobile Wireless Broadband's Web site lists Starbucks cafes as well as U.S. airports that offer wireless access.

Wayport (888-492-9767, www.wayport.com) Wayport's Web site lists more than 450 hotels and nine airports in the United States that offer wireless access.

Wi-Find Check out Wi-Find's Web site (www.wi-find.com) to search for wireless access points by zip code.

For more New York City locations, see www.nycwireless.net.

SHAREWARE **PICK OF THE MONTH**

SLOPE RIDER

Monte Boyd Interactive www.viper.net.au/~yodashut $15

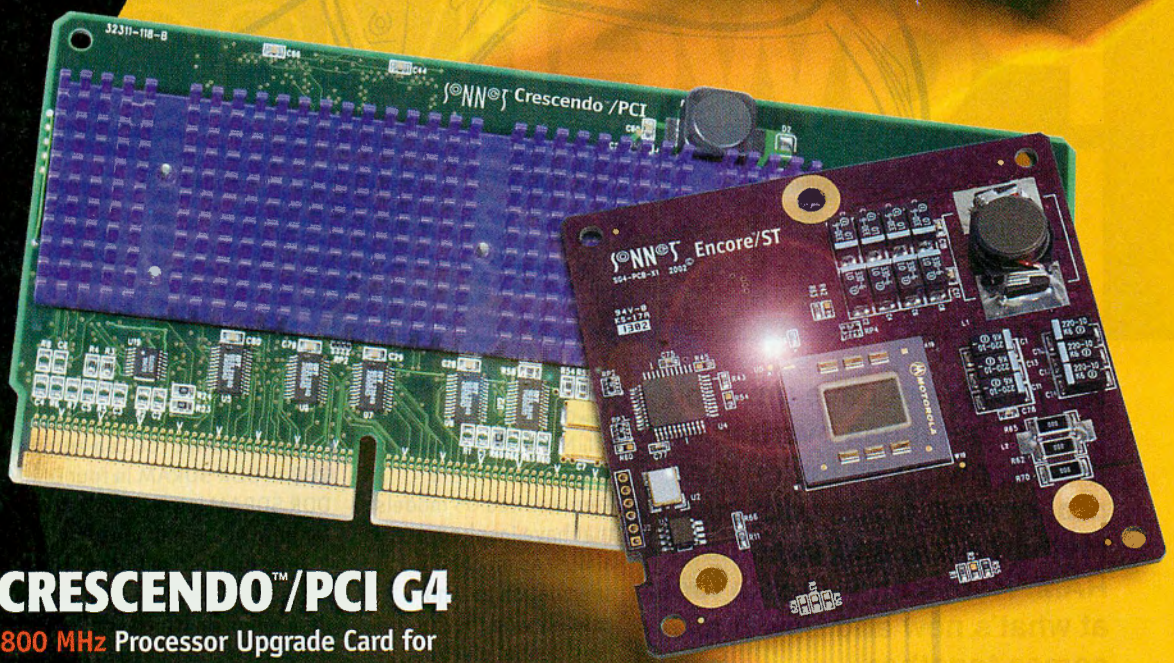
After freeriding down every other major game platform, snowboarding finally hits the Mac. In Slope Rider, you can race against a computer opponent in Alpine mode or go solo in Freestyle mode. You can execute combination moves like flips and grabs and even do rail slides. If you get bored of the ten included courses, make your own with Powder, the course-creation app that comes with Slope Rider. Both Slope Rider and Powder give you fast 3D performance with particle effects using OpenGL.
—Andrew Tokuda

ON THE DISC
Slope Rider 1.0.1

You're the king of the hill right now, but wait until you hit the ground.

Simply Faster...

1 GHz G4 Breakthrough!



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- **Crescendo/PCI compatible with 7300–9600 and clone-equivalent machines**
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- **No jumpers, no switches, no control panels.**
- **OS X Ready****

For more information go to: www.sonnettech.com

* Cube requires additional installation kit, and professional installation is highly recommended.

** PCI X Installer available for additional fee. Encore/ST G4 is built for OS X.

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The New PowerMacs: Inside and Out

Apple may not have unveiled the G5, but it has overhauled the G4, giving us faster dual processors, a powerful new motherboard, and speedier RAM. Here's an in-depth look at what's new and how it all comes together.

Let's get the obvious out of the way right off. No, the new Power Mac G4s aren't the long-awaited G5 models that have inspired almost as much rabid speculation as who actually won the 2000 presidential election. Nor is the top-end model powered by PowerPC processors with stratospheric clock ratings.

Fair enough, but worry not: All three of the new Power Mac G4s have heaps of power, exceptional expansion possibilities, and some rather unusual—some might even say odd—under-the-hood details. Here's what's new about the Power Mac G4s and how everything comes together internally to make these machines fly.

Power and Expandability

The most obvious "What the...?" aspect of the new Power Macs is the doubling-up of a broad range of system hardware and capabilities, including the following:

Dual processors across the line: 867MHz, 1GHz, and 1.25GHz. Each processor is a top-of-the-line PowerPC G4 with the swift, short pipeline (a seven-stage one, to be exact) and broad-shouldered Velocity Engine we've come to know and love. The 867MHz Mac features a 133MHz system bus, while the two high-end models get a speed boost to 167MHz.

Dual Level 3 caches: 1MB of DDR SRAM per processor for the 867MHz and 1GHz machines, and 2MB per processor at the 1.25GHz level. The 1.25GHz PowerPCs talk to their caches at a 5:1 ratio—that's 250MHz—and the 867MHz and 1GHz models talk at a 4:1 ratio, or 217MHz and 250MHz, respectively.

DDR SDRAM: You can equip each Power Mac with up to 2GB of DDR SDRAM in four DIMM slots (more on the role of DDR SDRAM later). That's up from the previous 1.5GB limit for RAM in the previous Power Macs.

Dual hard-drive buses: The first is an ATA/100 bus that comes with a 7,200-rpm 60MB, 80MB, or 120MB drive, depending on which configuration you buy. An empty ATA/66 bus stands ready for expansion.

Dual drive capability: Each of the two hard-drive buses can support—you guessed it—two drives. Add four 120GB drives (the maximum the Macs can handle), and you've got a voracious 480GB monster.

Dual RAID capability: Mac OS X's Disk Utility allows you to choose between RAID 0 (*data striping* multiple disks for better performance) or RAID 1 (*mirroring* multiple disks for better reliability). RAID even has dual meanings. Depending upon whom you ask, it stands for either redundant array of independent disks or redundant array of inexpensive drives.

Dual display ports: Each of three supported graphics cards has one ADC and one DVI port. By default, the 867MHz model ships with an nVidia GeForce4 MX, while the two high-end machines come with an ATI Radeon 9000 Pro. A powerful nVidia GeForce4 Titanium is a $250 or $350 build-to-order option (the price depends on which graphics card comes by default in the system you buy). A DVI-to-VGA converter comes with all systems.

Dual optical-drive capability: The 867MHz model ships with a Combo drive, and the other two models ship with a SuperDrive. You can choose to add a second optical drive to any model to achieve faster CD write and rewrite speeds (the SuperDrive writes CD-R discs at 8X and CD-RWs at 4X, while the Combo drive features 16X and 10X speeds, respectively).

The doubling theme continues with two FireWire ports and two USB ports (actually, Apple says the systems have four USB ports, including the ones on the keyboard—we think that's just plain cheating), but then the theme falters

Included Software

An abundance of software comes preinstalled on all new dual Power Macs. Here's what you'll find on their hard drives (and on their Software Restore discs):

Mac OS 10.2	Internet Explorer 5.2
Mac OS 9.2.2	EarthLink 2.6.3 trial
Mac OS X Developer Tools	Acrobat Reader 5.0
QuickTime 6	Art Director's Toolkit 3.0
iChat 1.0	FAXstf 10.0
iMovie 2.1.2	FileMaker Pro 5.5v2 trial
iPhoto 1.1.1	GraphicConverter 4.4
iTunes 3.0	OmniGraffle 2.0.4
iDVD 2.1	OmniOutliner 2.0.1
DVD Player 3.2	PixelNhance 1.5.8
Mac OS X Mail 1.2	Snapz Pro X 1.0.5

by Rik Myslewski
photography by Mark Madeo

a bit. Audio, for example, is blessed with four ports: analog-stereo audio line in and line out, a minijack for a pair of 10-watt Apple digital speakers, and—mirabile dictu!—a jack for a headphone or powered speakers, located where it should have been all along: on the front of the machine.

There's one 10/100/1,000Base-T Ethernet port and one modem port—for a total of two networking ports (OK, now we're stretching our theme a bit)—and Apple has upgraded the internal modem to a V.92 model (from V.90). Many dial-up ISPs have yet to adopt this relatively new standard, but when your ISP upgrades, you'll benefit from faster file uploads, snappier connections to frequently called numbers, and the ability to put your modem on hold while you answer incoming voice calls.

One final doubling: The nVidia GeForce4 MX has 32MB of DDR frame-buffer memory. The ATI Radeon 9000 Pro has double that at 64MB. And the nVidia GeForce4 Titanium—you guessed it—doubles that number yet again to 128MB. Double your pleasure, indeed.

The Inside Story

While all these double-double specs-specs are-are impressive-impressive, they really don't get to the core of what makes this new line of Power Macs so interesting. For that, you need to go deep into the belly of the beast. To do so, we rooted around inside a new Power Mac, scoured technical literature, and asked Apple some pointed questions.

Before you read on, though, be forewarned that Apple spokesfolks aren't keen on giving out deep background information on any of the company's products: "Apple declined to comment" is an oft-used response to many a question about the guts of its machines. In fact, so much of our information is informed analysis rather than Apple-sanctioned fact that we've invented a new acronym for this

story, which we'll use when we describe a feature about which Apple declined to comment: ADTC.

The chips that power the new Power Macs are from the Motorola MPC745x family (ADTC). The fastest of these chips for which Motorola has published specs is the MPC7455, and it tops out at 1GHz. Our assumption is that either Apple has access to a PowerPC G4 chip with a higher clock rate that it uses in the 1.25GHz model (ADTC), or Apple's engineering geniuses are coaxing a higher speed out of a 1GHz MPC7455 certified for use in a higher-temperature environment (ADTC). While this may sound like dangerous overclocking, using these certified chips at a faster clock rate in a well-cooled environment such as that of the new Power Macs is entirely legit. In any case, we don't know which scenario is true—and Apple and Motorola ain't talking.

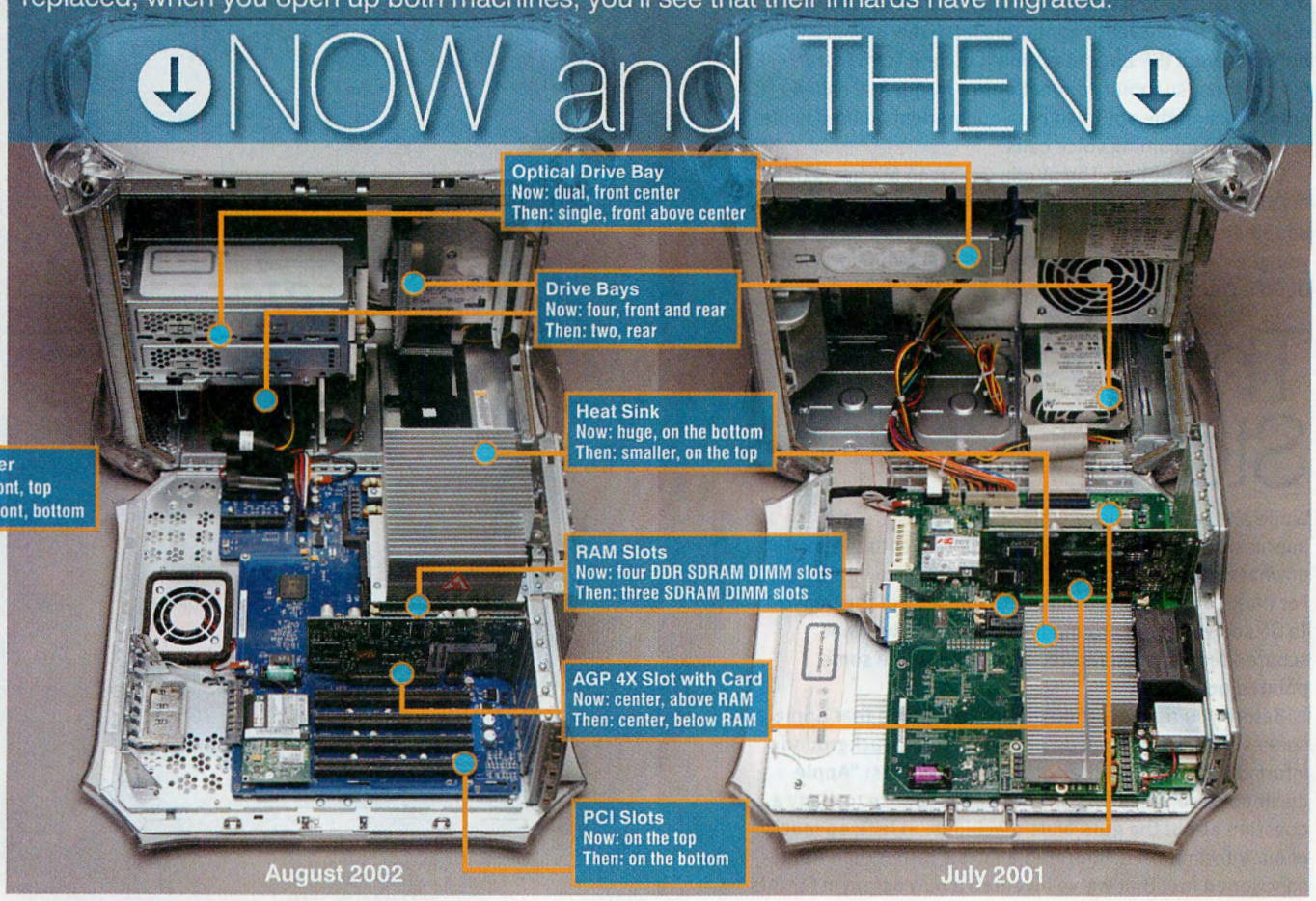
Of more interest, though, is the fact that the new Power Macs use a system controller called U2, originally designed for the Xserve (ADTC). This chip is one powerful puppy. It combines a Gigabit Ethernet controller (IEEE 802.3ab), a 400-Mbps FireWire controller (IEEE 1394a), a fast hard-drive bus controller (ATA/100), and a PCI bridge with a DDR SDRAM memory controller. Putting Ethernet and FireWire support directly into the system controller frees the PCI bus from the Ethernet and FireWire data traffic that slows PCs, which commonly use PCI cards to provide these features.

Putting the PCI bus bridge inside the system controller is another smart move on Apple's part, since this bridge connects directly to the controller's 667-MBps internal bus. Apple claims this move allows the maximum bus throughput to reach 266 MBps—good news for pros, who will stuff the Power Mac's four full-length PCI slots with cards.

The ATA/100 hard-drive bus supported by the system controller bumps up the speed from that of the ATA/66 bus in previous Power Macs. But that ATA/66 bus hasn't gone away—it's still there, supported by a separate I/O controller chip called KeyLargo (ADTC), which also supports USB, the V.92 modem, the audio chip (ADTC), dual internal optical drives, and other system services.

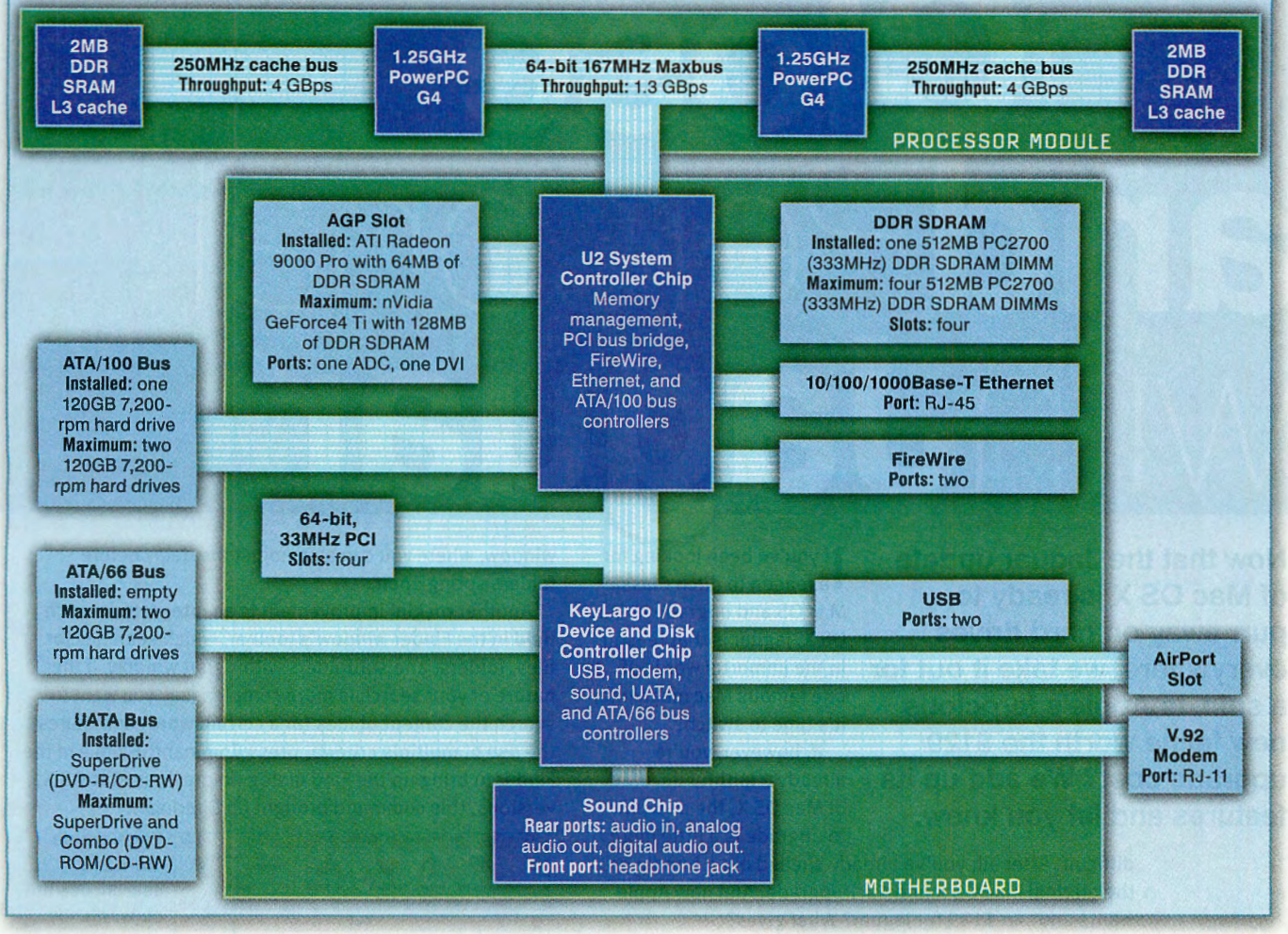
The new system controller has one more job: managing up to 2GB of DDR SDRAM, or double data rate synchronous dynamic RAM, which can run at—surprise!—double the read/write rate of RAM in non-DDR machines (see "Inside DDR SDRAM," Oct/02, p13). Since the 1GHz and 1.25GHz Power Macs have 167MHz system buses, they can achieve

Although the new Power Mac G4 towers look similar to the QuickSilver models they've replaced, when you open up both machines, you'll see that their innards have migrated.



How It Works: The Dual 1.25GHz Power Mac G4

It takes a lot more than a pair of powerful processors to make the new dual-everything Power Mac G4 sing—in fact, it requires an entirely new motherboard, adapted from the one made for the Xserve. Here's a look at all the important players and how they work together.



a maximum theoretical throughput of 2.672 GBps between main memory and the system controller.

That's an impressive number, but note that we didn't say "between main memory and the PowerPC processor." Here's where the new Power Mac architecture is, shall we say, suboptimal. When data passes from the dual PowerPC processors to the system controller, it must do so over the Motorola-supplied *front-side* Maxbus (ADTC) at a throughput rate of only 1.3 GBps—and Apple *did* confirm this figure. The reason? The MPC745x family of processors doesn't currently support DDR.

If you've hung in there with us this far, it's probably dawned on you that we've just stumbled upon a bottleneck: two high-speed processors contending for a single 167MHz bus to get to the system controller. And you'd be right. Sorta. One reason it's not a fatal flaw is that the well-named Maxbus uses a number of efficiency-enhancing tricks—way too geeky to go into here—that improve throughput not only to the system controller, but also between the two processors. As a result, the Maxbus makes that 167MHz seem even faster.

Where the DDR SDRAM shines is in supporting Apple's implementation of DMA (direct memory access). DMA is a scheme in which different system components—FireWire, Ethernet, the AGP graphics card, and PCI, for example—can pass data amongst themselves without involving the processors. This nearly 2.7 GBps of throughput means the system can get a lot of work done very quickly without making the processors play traffic cop.

How Fast Does It Go?

So, let's review what we know—and surmise—about the new dual-everything Power Macs: Double everything? Check. New motherboard design? Check. Fast DDR SDRAM? Check. Better PCI integration? Check. Faster and more-expandable storage? Check. Possible data-throughput bottleneck between the processors and the system controller? Check.

All well and good, but what you're all wondering, of course, is whether all this technical hoo-hah adds up to better performance. The short answer is, "Damn straight." For the longer, more-detailed answer, check out our review of the new dual 1GHz Power Mac on page 40. We think you'll be impressed.

Nothing makes editor in chief Rik Myslewski happier than block diagrams, pin-out specs, and bus-protocol descriptions, except maybe Chee-tos—like Rik, they're Dangerously Cheesy™.

Up Close and Personal with Jaguar

Now that the Jaguar update of Mac OS X is ready to purr away on hard drives everywhere, we take it out for a spin. Is Apple's ferocious new feline worth the $129 upgrade cost? We add up its features and let you know.

If you've been looking for a reason to ditch Classic Mac OS and upgrade to Mac OS X, Jaguar is that reason. In the immortal words of one famous Mac magazine, it's time to switch!

If, however, you're already a faithful devotee of Mac OS X, the decision to upgrade is a little more difficult. After all, you've already shelled out a bundle on the original Mac OS X and 10.1 upgrade. And now Apple wants another $129 for Jaguar? What gives?

Apple says the price is more than fair. But of course Apple would say that, so we decided to appoint ourselves judge and jury and evaluate Jaguar on its features versus its cost, assigning each major new feature a dollar value. Note that we said *major:* Because Jaguar brings more than 150 additions to the table, we only looked at the biggest and best of them—the ones you'll likely care most about.

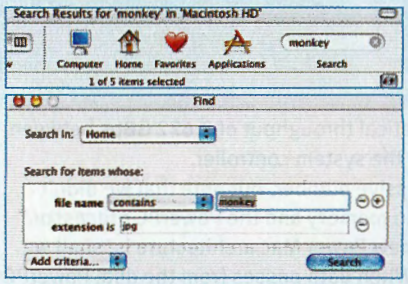
So is Jaguar worth 129 big ones? Read on and find out.

The Finder

While the Finder is still, and will always be, the Finder, Jaguar offers some improvements on how you get around your system.

First there's the return of **spring-loaded folders**. A bit of history for Mac newbies: Apple introduced spring-loaded folders in Mac OS 8, and users quickly hailed them as the best invention since salad-in-a-bag. The company rudely ditched them in Mac OS X, but has now reintroduced them after much prodding. The concept is simple: Drag a file onto a folder and hold for a moment, and that folder will spring open, allowing you to drag your file onto another folder, and so on. By the way, spring-loaded folders now work in List, Column, and Icon views. If you don't like this feature (but who wouldn't?), turn it off in the Finder Preferences window, where you can also adjust the delay before folders spring open.

Another rockin' improvement is an **integrated search field** in the Finder window's toolbar, which searches for files, folders, and subfolders within that window. If the nature of your search is more complex (say you want to search the content of files for a certain word) or requires the use of multiple criteria, press Command-F while in the Finder to bring up the Find dialog (in previous Mac OS X versions, this command brought up Sherlock).



For a simple file-name search, use the conveniently placed integrated search box (top). Need to get more specific? Bring up the Find dialog (bottom).

Jaguar also includes a major change to the Finder: The entire **Finder is now multithreaded**. Multithreading basically means that an application—and remember, the Finder is an app—can execute a number of commands in parallel. You'll notice this under-the-hood change in just about everything you do—windows open and close more snappily, server connections get up and running faster, and so forth. Also, when you connect to a file server, no longer do you have to wait for the list of its contents to appear. Lists show up first and icons fill in later—that's because different threads now handle file names and their icons.

The Finder: What's It Worth?

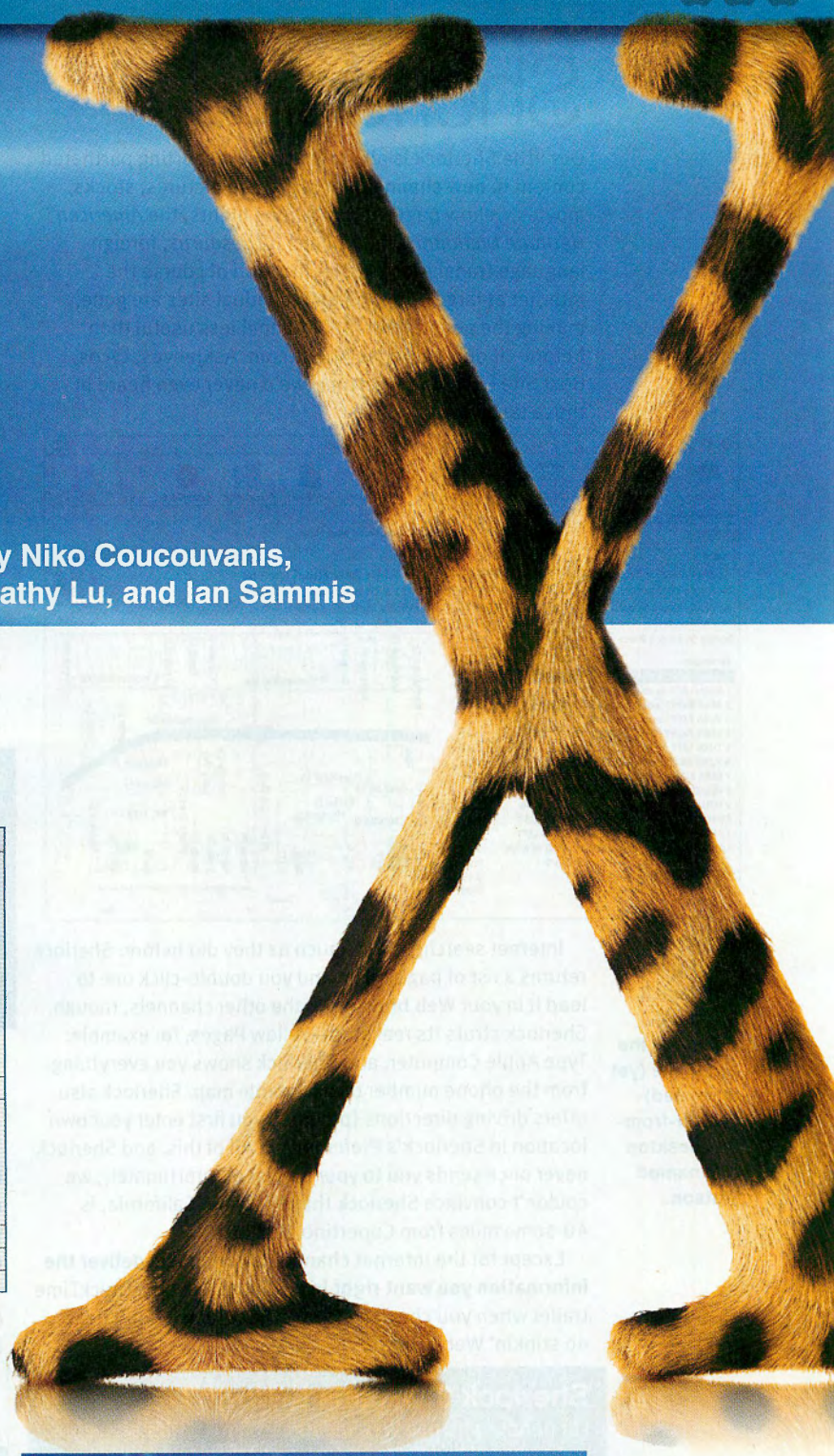
We figure that the convenience of spring-loaded folders, the Finder's increased performance, and a Find function that doesn't involve Sherlock are saving us at least half an hour a day in productivity, which amounts to about $12.50 (hey, we're on journalists' salaries here). **$12.50**

Jaguar Specifics

Mac OS 10.2 (aka Jaguar)
Price: $129 single user; $199 Family Pack (five-Mac license); $19.95 if you bought Mac OS 10.1.x or a new Mac with 10.1.x on or after July 17, 2002 (offer ends Oct 31, 2002)

Mac OS 10.2 Server (aka Jaguar Server)
Price: $499 ten-user license; $999 unlimited; $19.95 if you bought OS X Server 10.1.x or an Xserve on or after July 17, 2002 (offer ends Oct 31, 2002)

System Requirements for Mac OS 10.2:
Any Mac with an Apple-supplied G3 or G4 processor (except the original PowerBook G3; no upgrade cards supported), 128MB of RAM, 3GB of hard disk space recommended (1.5GB should suffice)

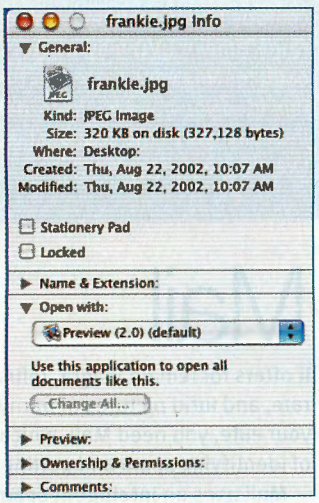


by Niko Coucouvanis, Cathy Lu, and Ian Sammis

Interface

Besides a redesigned Finder, you'll notice a number of interface tweaks that make the Mac OS X experience easier, prettier, and more convenient.

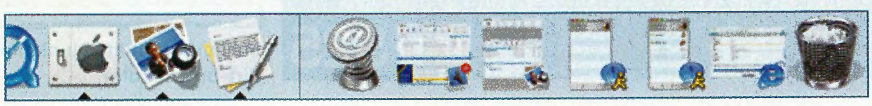
For one, there is a redesigned Get...oh, we mean Show...oh, we *do* mean Get Info window. In Jaguar, Show Info becomes **Get Info** again (has Steve Jobs been hanging out with Prince?) and is hella more efficient. Instead of having to navigate through different options via a pop-up menu, you use a series of reveal triangles to tweak privileges, file-name extensions, what application opens a particular file type, and so on, all in one fell swoop.



The new Get Info window is so much more convenient than Mac OS X's previous Show Info window.

Other nice additions include a **new Jaguar desktop theme** (we assume no animals were harmed in the making of this desktop picture) and the ability to have OS X change the desktop at designated intervals (for instance, every minute, every day, or every time you log in).

We also love some of the **Dock tweaks**. For one, the Dock is now semitransparent, without lines. Even better, every time you minimize a window to the Dock, that window appears with its application's icon—no longer do you need to squint to discern whether that's a Mail, Excel, Netscape, or Explorer window.



When you minimize windows, the Dock tells you what app they belong to. No more squinting!

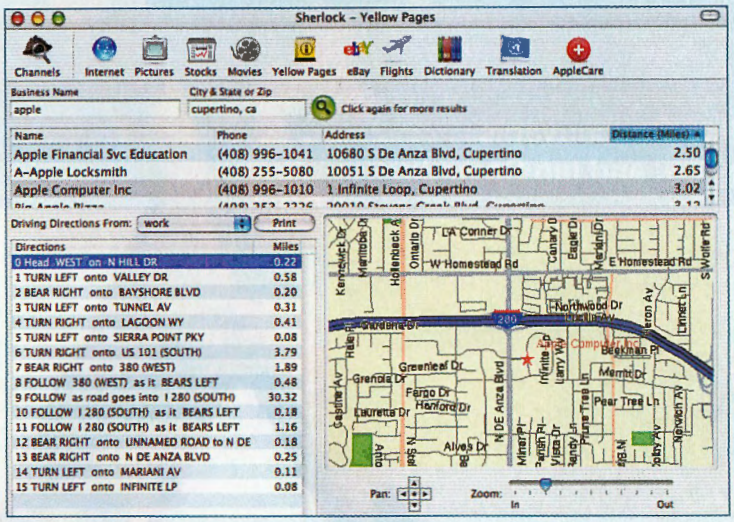
Interface: What's It Worth?

While Jaguar's interface improvements are sweet, we don't really *need* any of 'em—kinda like our morning Venti mocha. So we're willing to go through one morning of caffeine withdrawal (at $3.35 a mocha) to pay for a finer-looking Jaguar.

$3.35

Sherlock 3

Our little Sherlock is all grown up, now sporting partnered content in **new channels** for searching pictures, stocks, movies, yellow pages, eBay, airline flights, the *American Heritage Dictionary* and *Roget's II Thesaurus*, foreign-language translation, AppleCare, and of course the Internet at large. Plug-ins for individual sites are gone, making the general Internet Channel less useful than before—it only searches About.com, AskJeeves, Lycos, Best Site First, and Overture (we'd never even heard of those last two).



Mr. Watson, we presume? Sherlock 3 is a dead ringer for the awesome (yet unrelated) search-from-the-desktop app named Watson.

Internet searches work much as they did before: Sherlock returns a list of page titles, and you double-click one to load it in your Web browser. In the other channels, though, Sherlock struts its real stuff—Yellow Pages, for example: Type Apple Computer, and Sherlock shows you everything from the phone number to a printable map. Sherlock also offers driving directions (provided you first enter your own location in Sherlock's Preferences). All of this, and Sherlock never once sends you to your browser. Unfortunately, we couldn't convince Sherlock that Brisbane, California, is 40-some miles from Cupertino, not 3.02.

Except for the Internet channel, **all channels deliver the information you want right in a window**—even a QuickTime trailer when you check a movie schedule. We don't need no stinkin' Web browser.

Sherlock 3: What's It Worth?

For people who use Web resources like www.m-w.com (Merriam-Webster Online) and Google's Image Search almost daily, Sherlock 3 is a huge convenience, providing instant desktop access to your favorite sites. If it used our regular sources for channels instead of www.dictionary.com and www.gettyimages.com, we'd pay the whole $129 just for Sherlock. As is, or until we can designate our own content providers, it's only worth $25—because it's still not as cool as Karelia's Watson shareware ($29, www.karelia.com), which performs a similar service.

$25

Quartz Extreme

Unlike Sherlock 3, iChat, or the newly tweaked Finder, Quartz Extreme is the kind of thing you may not notice at first—that is, you won't notice its *absence* until you try playing a DVD while surfing the Web and writing a letter in Word. As you've probably experienced, things can really slow down and the video may get jumpy (of course, it doesn't help if you're working on a now-dumpy 350MHz Power Mac G4).

Quartz Extreme is a breakthrough technology that **speeds graphics processing** by using OpenGL to convert each interface window into a texture, which then goes to the graphics card for rendering rather than burdening the main processor. You can't turn it on or off—Jaguar automatically takes advantage of Quartz Extreme if you have a powerful enough graphics card. According to Apple, Quartz Extreme kicks in on Macs equipped with an nVidia GeForce2 MX, GeForce3, GeForce4 MX, or GeForce4 Ti, or any AGP ATI Radeon card with at least 16MB of VRAM.

Quartz Extreme: What's It Worth?

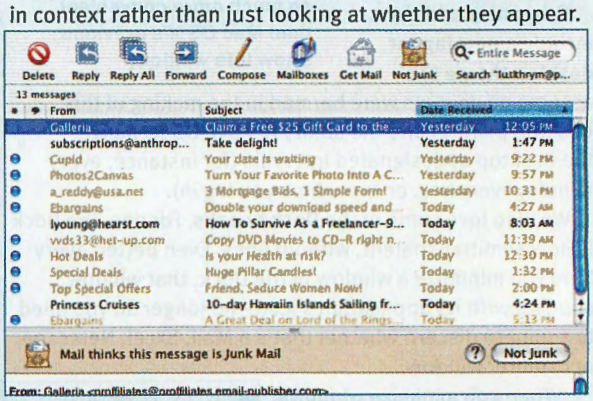
With Quartz Extreme, any task that requires a lot of compositing of onscreen objects (for instance, playing QuickTime or DVD movies) gets handed off to the video card, leaving your processor free to deal with other work. Provided you have an up-to-date video card, that's a big deal and worth the cost of at least one DVD movie—$14.99 (we shop at Target, OK?).

$14.99

Mail

If offers for female Viagra, refinancing at a low mortgage rate, and lurid pictures of barnyard animals are ruining your elife, you need Mail, which does a damn effective job of identifying spam and getting it out of your face.

Mail uses an **intelligent spam filtering** technology called *adaptive latent semantic analysis*, which studies keywords in context rather than just looking at whether they appear.



Mail differentiates junk mails using a very apropos dirt-brown color.

The filter works amazingly well and correctly caught more than 90 percent of our spam right off the bat.

When you first start up Mail, you're in Training mode. That means Mail will load all of your messages into your in-box, marking in brown those it deems to be spam. If it's not spam—say you really *are* looking for the best Viagra prices—simply click the Not Junk button at the top of the message. Mail learns that it shouldn't mark messages from that source as junk. Say Mail lets a piece of spam get through—just indicate that the message is Junk, and again, Mail learns.

Once you trust that Mail is doing right by your email, switch the junk filter to Automatic (in the Mail menu). This throws all of your unwanted email into a Junk folder you can check occasionally to make sure important messages from your boss didn't accidentally find their way in there (unless that was your intention). The best part: You can continue to train Mail ad infinitum, even in Automatic mode.

One more Mail feature of note: You can now create **separate accounts with *separate* in-boxes**. No longer do your home, work, and Mac.com accounts have to—ewww—share an in-box.

Mail: What's It Worth?

Mail is worth at least 50 cents for every piece of spam we don't have to look at. At about 25 spams a day, that's $12.50.

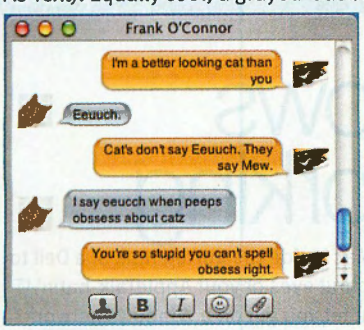
$12.50

iChat

There are two things we love about iChat. One, it makes us feel like we're actually having a live conversation. Two, we don't have to use America Online's client—Apple designed this baby's interface.

You can use any image to represent yourself; iChat automatically resizes and positions it.

iChat is an **AOL Instant Messenger (AIM) client**, meaning it only works if you're chatting with other users on AIM—you can't chat with users of, say, MSN Messenger or ICQ. The coolest thing about iChat is its interface. Instant messages appear in little conversation bubbles, cartoon style (although if this annoys you, can change it to regular text via View › Show As Text). Equally cool, a grayed-out bubble appears next to a person's icon when someone (either you or the person with whom you're chatting) is in the middle of typing—which cuts down on confusing cross-chatter.



iChat's conversation bubbles give you that authentic arguing-with-a-real-person vibe.

Apple has always been the king of customization, and iChat is no different. For instance, you can easily **choose a picture to represent yourself**. Apple provides a number of icons for differentiating user accounts, and lo and behold, those pictures work perfectly in iChat—simply drag one of them from the Library › User Pictures folder onto your icon in the Buddy List window. Or you can take any of your own images and drag 'em onto your icon, and iChat will resize the picture for you. Awesome. You can even customize your Away and Available messages by clicking your status in the Buddy List and selecting Custom.

Create your own custom Available and Away messages to suit your mood.

Like AIM, iChat comes with a list of emoticons and supports file transfer; unlike AIM, iChat does not have a stock or news ticker—but we're not too torn up about that.

iChat: What's It Worth?

Since instant-messaging programs are free, we're inclined to give iChat a value of $0. Yet considering its awesome interface and the fact that we don't have to use an AOL product, we'll value iChat at $6—about one-quarter the cost of an AOL monthly membership.

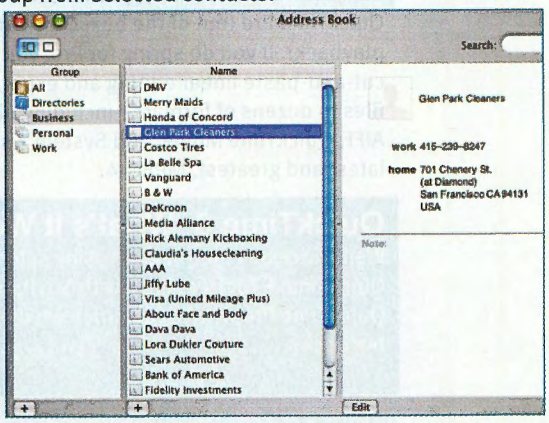
$6

Address Book

Do you have eight different copies of your ex-wife's address in eight different applications and devices? Address Book can help.

Address Book is a **central repository for your contacts**—to borrow a phrase from Apple, it's a hub. Simply enter contact information, and any application that supports Address Book services (for instance, Mail and iChat) can access that information. Apple is hoping for future support from third-party vendors. As of press time, Apple hadn't released iSync, so we couldn't test how Address Book works with a Palm OS device.

Address Book will import contacts stored as vCards and in LDIF (LDAP data interchange format). The easiest way to move your contacts from Palm Desktop is to export your contacts by category as vCards. You can then create a correlating group in Address Book and drag the vCard file onto that group to import those contacts. Or you can export all of your contacts at once and then organize them into groups within Address Book—there's even a command for creating a new group from selected contacts.



Address Book is clean and simple—the way we like our contact managers.

Entourage offers a more annoying challenge. It can only export multiple contacts as a text file, which Address Book doesn't recognize. Unfortunately, Entourage only lets you create vCards one contact at a time, and frankly, we'd rather

be stuck in an elevator with Charo than have to export and import all our contacts one at a time. Fortunately, Jaguar comes with an import contacts script called Import Addresses.scpt (Library › Scripts › Mail Script) that allows you to move contacts from Entourage (as well as Palm, Eudora, and other apps) to Address Book. Still, the best way to maintain the integrity of information and fields is through vCards.

Address Book: What's It Worth?

A contact manager that organizes our lives, reduces hassle, and saves us time? Sign us up! Right now, we like it more than Palm Desktop, which is free, so we'd certainly shell out $10 for it as shareware.

$10

QuickTime 6

QuickTime 6 has a couple of new tricks up its sleeve, the biggest of which goes by the name of **MPEG-4.** Media-savvy readers will recognize this as the progeny of MPEG-2 and MPEG-1 Layer 3 (aka MP3).

QuickTime 6 may look pretty much the same as QuickTime 5, but there's a lot going on underneath that makes your viewing more pleasurable.

Advanced audio coding (AAC) is a big part of MPEG-4. Developed at Dolby Labs, AAC provides smart variable bit rate (VBR) encoding and other signal-processing juju to provide CD-quality audio at a lower bit rate than MP3. It works great—we couldn't hear the difference between a 2MB 96-Kbps MP4 and a 3MB 128-Kbps MP3.

The MPEG-4 codec brings two new features to QuickTime: **instant-on streaming**, which promises video on demand to broadband users (the key word here is broadband, and we still endured some buffering over our fat Internet connection—though not much) and **QuickTime Broadcaster**, a free download with which you can easily broadcast MPEG-4 video and audio (AAC) streams over the Internet or a local network (see "How To Broadcast Your Own Show on the Web," Sep/02, p68). On a fast server and a fast LAN, instant-on is impressive.

Apple claims QuickTime Pro 6 is the first coast-to-coast MP4 converter, meaning that it can both play and encode MP4 files. Unfortunately, you have to fork over $29.99 for QuickTime Pro (out of the box, QuickTime 6 is limited to playback). If you do spring for Pro, you can perform basic cut-and-paste linear editing and export audio and video files to dozens of formats—including old standards like AIFF, QuickTime Movie, and System 7 sound, as well as the latest and greatest, MPEG-4.

QuickTime 6: What's It Worth?

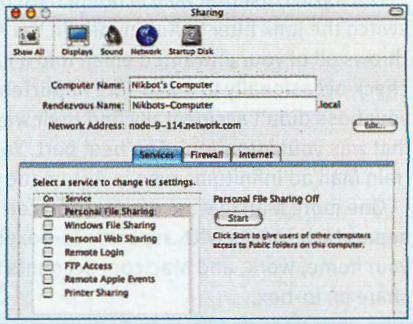
Well, since any non–Jaguar-using schmo can download QuickTime 6 for free, it's worth $0. If Apple provided QuickTime Pro with Jaguar, *then* we'd be talking the big bucks.

$0

Rendezvous

We don't get to throw around the term *industry standard* all that much when talking about Apple, but that's exactly what Apple hopes Rendezvous will become.

Based on the ubiquitous IP (Internet protocol) and Apple's so-called **zero-configuration** technology, Rendezvous effectively cuts out the middleman (manual configuration), and sniffs out devices with available services—mainly Macs and servers (Mac, Unix, or NT) to which you can connect, and printers you can share.



Identify yourself, set access privileges for your Mac, and you're ready to Rendezvous.

The zero-configuration part is cool, but Apple uses the word *zero* pretty loosely—you still have to configure your Mac to allow services like file, application, and printer sharing, or to enable local network Rendezvous Messaging for interoffice iChat encounters. What you won't have to do is futz with AppleTalk Zones or local IP addresses—it just happens. All you have to do is select Connect To Server from the Go menu. Rendezvous works on any IP-based network, including AirPort and wired Ethernet.

Bottom line: If yours is a one-Mac home, you can't rendezvous with anyone else, so this feature isn't necessary. However, you'll find it useful if you're tooling around on a network.

Rendezvous: What's It Worth?

Taking the difference in price between the single-user version of Jaguar ($129), in which Rendezvous may be useless, and the Family Pack ($199), in which Rendezvous will be incredibly useful, we get $70. Divide that by two, since only half of you will find Rendezvous useful (we didn't arrive at that figure scientifically, by the way), and we have $35.

$35

Windows Networking

So you're hiding your Mac inside the gutted hulk of a Dell to protect it from the watchful eyes of your AppleTalk-hatin' IT department. Will Jaguar let you get on a Windows network?

In a word, yes. The formerly frustrating Connect To dialog has emerged as a powerful tool—it can **browse AppleTalk zones and Windows workgroups** with equal

Something for Everyone

If you think Jaguar merely comes with some enhanced networking features, a cool chat client, and a better mail app, think again. While Jaguar holds a lot of appeal for the average Mac user, it also offers plenty of features for specialized groups.

FOR GEEKS

If your journey across from Linux or BSD left you feeling disappointed, you'll find that Jaguar is a definite step up from 10.1. It comes with more libraries installed, making it much easier to run standard Unix tools. The Terminal application now handles full VT220 emulation and works much better at font sizes other than the default, and—best of all—transparent Terminals are now a feature, not a hack. The addition of CUPS (common Unix printing system) makes printing from Terminal work exactly as it would in other Unix versions, with `lpr`, `lpc`, and all the other usual suspects supplanting the nonstandard `Print`. While we still miss features like virtual desktops, overall 10.2 is a much Unixier Unix.

FOR DEVELOPERS

If you're a developer, the major new feature of Jaguar is the inclusion of GCC (GNU C compiler) version 3.1. This marks a major milestone for Apple, which has managed to merge the compiler it inherited from NeXT with the current version of the compiler that comes with almost every other Unix in existence. From now on, you can download the newest version of the OS X compiler from the Free Software Foundation and compile using the most current tools, just as you'd do in Linux or Solaris.

FOR IT PROS

System administrators and overworked IT drones will love Jaguar from both sides of the fence: admin and end user. Thanks to the new NetInstall and improved NetBoot, you can install software—even OS updates—from one OS X Server machine instead of visiting each Mac individually. Add to that Xserve's headless operation, and you can do those Network Installs from a dumb terminal connected to an Xserve's serial port—pretty smart.

Jaguar also supports some non–Apple-specific standards, such as Open Directory (LDAP) services and scripting out the wazoo with Python, TCL, Ruby, fast CGI, and a server-optimized Java Virtual Machine on top of Perl, MySQL, and PHP. Jaguar even supports non-Apple machines, providing file- and print-sharing services via Samba, WINS, and NFS to Windows, Unix, and Linux clients. The best part is that Jaguar makes these technologies point-and-click simple with setup and maintenance apps like Open Directory Assistant, Workgroup Manager, and Server Monitor.

FOR TEACHERS

Schools with limited IT expertise will welcome the simplicity that Rendezvous brings to printer and file sharing. Also, NetBoot makes it easier to boot all the machines off a central server, while NetInstall lets OS X Server owners install Jaguar over a network.

Also, if you don't want kids screwing around on the classroom Mac, you can create an account (in the Accounts preference pane) and assign students certain capabilities. For example, you can prevent students from accessing email or the Internet by clicking the Capabilities button and making appropriate selections after adding a new user.

FOR PEOPLE WITH DISABILITIES

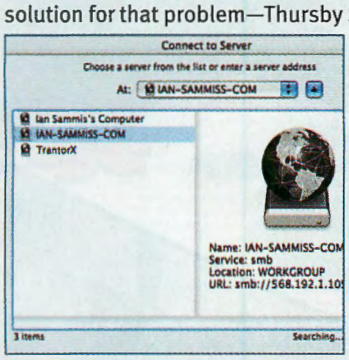
Jaguar offers more options if you're dealing with a limitation on your hearing or sight. You can locate these features in the Universal Access preference pane, which includes the ability to zoom the screen to a 20x level of magnification, set everything to display as white on black, and set the screen to flash every time an alert sounds.

FOR GRAPHIC ARTISTS WHO CAN'T TYPE

If the keyboard is your enemy, meet Ink, Apple's handwriting-recognition system, which works in any application that supports text. You won't find the Ink system preference unless the system sees a Wacom tablet and driver installed. Unfortunately, Ink only recognizes print (not cursive), and it takes some getting used to if you tend to connect your letters.

facility, and connect to shared volumes on either (it can connect to FTP servers, too: Just type the URL, and the server will show up in the Finder).

Unfortunately, print sharing is another matter. While Jaguar makes it easy to print to AppleTalk and LPR printers, there's **no way to connect to Windows shared printers**. At press time, even the leading third-party solution for that problem—Thursby Software's Dave ($149, www.thursby.com)—didn't yet run in 10.2 (although a Jaguar-compatible public beta should be available by the time you read this). While this shouldn't be a serious problem (modern versions of Windows set up LPR queues by default these days), it could cause you trouble if the IT folks in your office are bozos.



This Mac shows up twice—once on the Mac network, then again on the Windows network.

Windows file sharing is the biggest improvement to Mac OS X's ability to talk to the Dark Side, but it's hardly the only one. Jaguar comes with a **built-in VPN (virtual private network) client** (tucked away in the Internet Connect application) that should make it easy to connect to VPNs (which let a machine pretend to be on a corporate LAN when it's actually outside). Apple has also altered Mail to work in tandem with an Entourage server.

Windows Networking: What's It Worth?

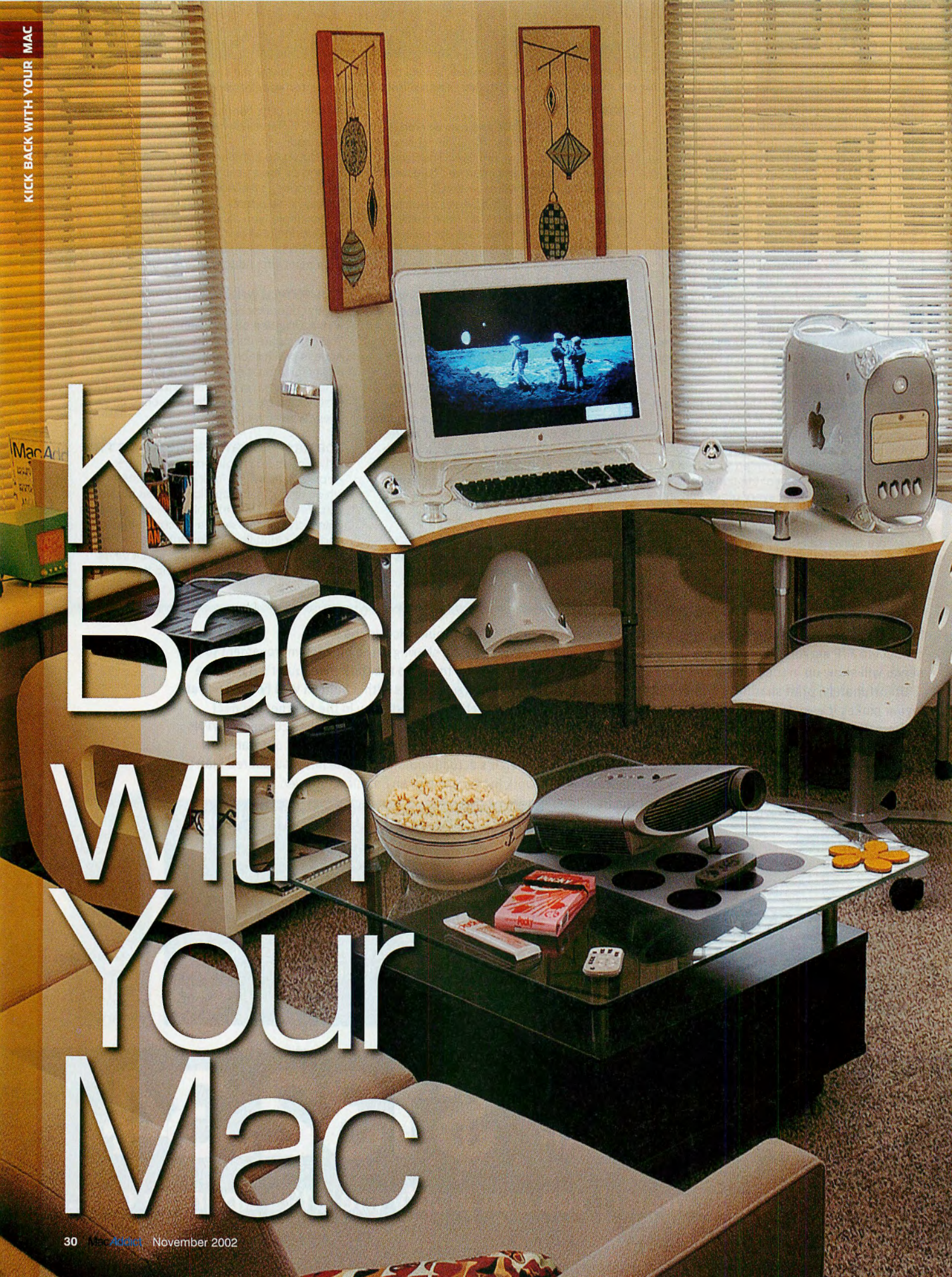
Using the results of a RAND study (Excel's RAND() or random-number function, not the think tank), we've determined that 8 percent of Mac users need these features. We'll assign Jaguar about half the value of Thursby's Dave (since it has half the features): $75. The VPN client could replace Gracion Software's DigiTunnel ($88, www.gracion.com). Summing up and multiplying by 8 percent, we find that the total value of the Windows networking features is $13.

$13

If *MacAddict* editors Niko Coucouvanis, Cathy Lu, and Ian Sammis belonged to any feline species, they would be fat domestic housecats, the kind who sleep, purr, eat, and drool a lot.

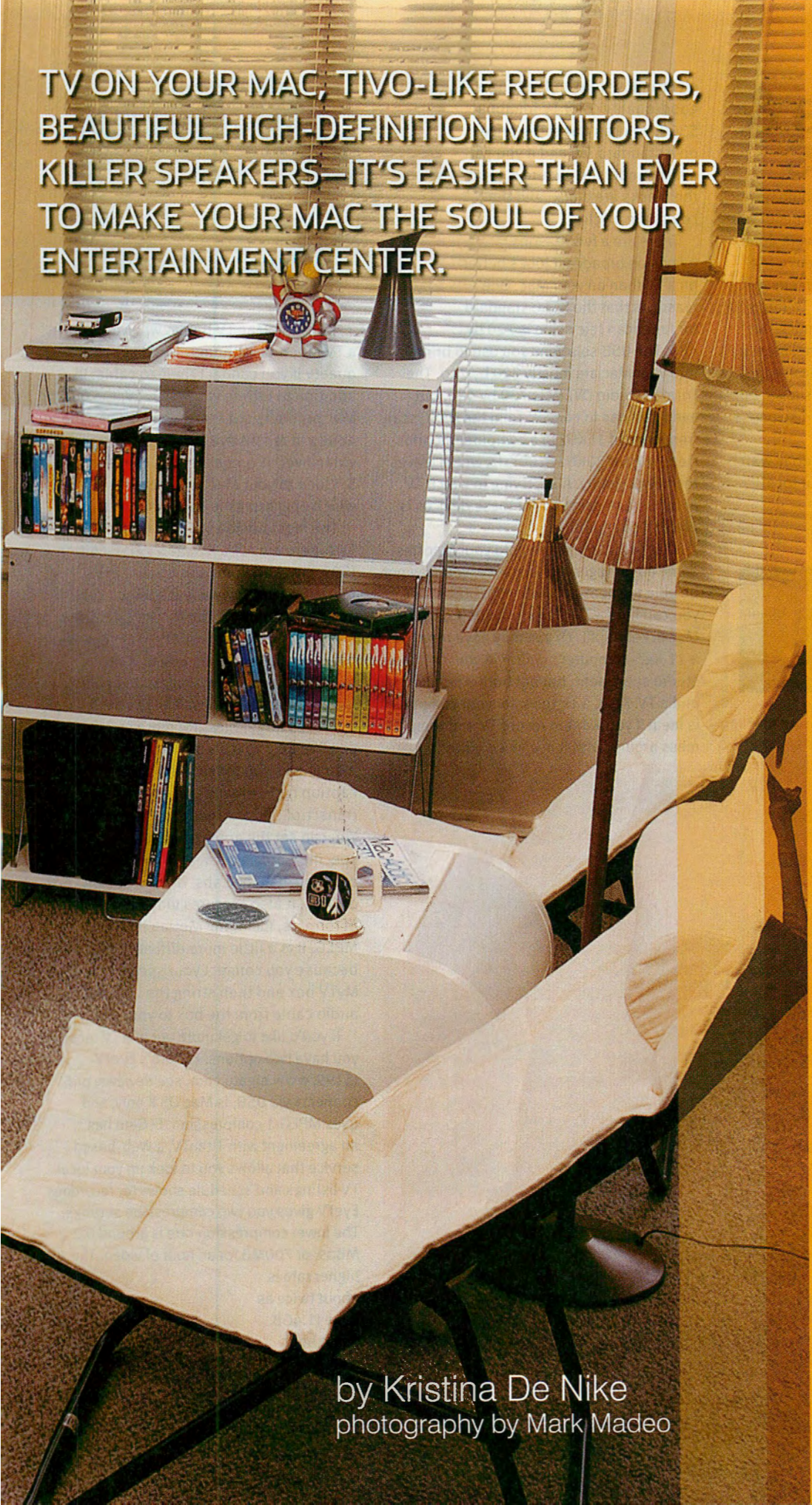
TOTAL ESTIMATED VALUE OF JAGUAR: $132.34

VERDICT: It's a winner! You can justify the $129 upgrade cost.



Kick Back with Your Mac

TV ON YOUR MAC, TIVO-LIKE RECORDERS, BEAUTIFUL HIGH-DEFINITION MONITORS, KILLER SPEAKERS—IT'S EASIER THAN EVER TO MAKE YOUR MAC THE SOUL OF YOUR ENTERTAINMENT CENTER.



by Kristina De Nike
photography by Mark Madeo

In the living room you have your TV, stereo, VCR, and DVD player. And then in the office you have your Mac with an Internet connection, CD-R or DVD-R, and monitor. But what do you do if you want to save your favorite TV show to CD? Or play that MP3 you just downloaded on your booming speakers?

You're stuck. Or are you?

It's more possible than ever to make your Mac the brains of your entertainment center. With the latest wave of TV receivers and recorders, dual-purpose displays, and wireless remotes, putting the Mac in the center of your living room—or putting your living room in the center of your office—increasingly makes sense.

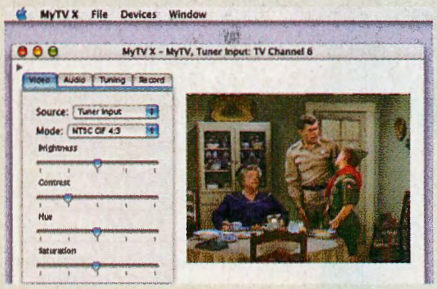
Your Mac can record TV shows, watch movies, and play CDs, just like your boring old home-entertainment gear. But just try to talk your TV or stereo into editing video or sound files and saving them to CD-R or DVD-R. It doesn't work. Your Mac is just plain smarter. Of course, there are drawbacks too: For instance, TV is still best viewed on a standard television set since TV tuners bring in lower-resolution pictures. And for the time being Apple doesn't support Dolby surround sound.

But if your Mac is already the center of your life—and admit it, that's probably the case—it makes sense that it also be at the center of your other favorite activities. ▷

TV Tuners & Recorders

Ever sit at your Mac wishing you could have the baseball game running in a corner of your screen? You'd still be able to get work done, but when Barry Bonds hits number 74 (we can dream, can't we?), you wouldn't miss it. The simplest devices for bringing TV into your Mac—the ATI and Eskape Labs tuners—let you watch TV and record it live. The latest DV recorders from El Gato and Formac use the Internet to schedule recording of shows. El Gato's EyeTV even gives you TiVo-like pause and replay controls.

One caveat: If all you want to do is watch TV, you're better off going to your local electronics store and getting a good-quality color TV for about $300. You can't beat the price on a standard TV, and if you get a nice model the picture is clear, the blacks are black, and the colors are bright.



MyTV gives you basic live-television viewing and recording with easy-to-use controls.

There are a few reasons television broadcast looks better on a TV than on your Mac. One reason is that the NTSC standard for American television is 720 by 480. The USB solutions you use to bring TV into your Mac are mostly 320 by 240. The Formac studio DV/TV is 720 by 480, but even that has to convert from the NTSC scan frequency of 15KHz to a computer monitor frequency of 30KHz to 80KHz, which leaves the image grainy. Also, trying to watch TV at full screen using any of these devices is pretty disappointing.

That said, bringing TV into your Mac has some advantages. For instance, you may not be able to sneak a TV into your office, but you can hide a TV-viewing window on your Mac lickety-split. Or you may have room for a 21-inch computer monitor in your cramped studio apartment, but not both a monitor and a TV. Also, a TV tuner for your computer is ideal if you want to record TV and then mess around with it in a video editor.

All of the Mac TV tuners will work with a TV antenna, although you'll get better quality if you connect them to cable. In addition to letting you watch TV, the four Mac products out there also give you the ability to record live TV and to capture video over a composite RCA connector or S-Video to your Mac, except the EyeTV, which only brings in composite video.

The most basic and inexpensive USB TV tuners are **ATI's Xclaim TV USB Edition** ($99, www.ati.com) and **Eskape Labs' MyTV/fm** ($155, www.eskapelabs.com; see *Reviews*, p46). The Xclaim TV is OS 9 only and supports a variety of compression types, including Motion JPEG, a series of JPEG-compressed images. Its quality is about the same as MPEG-1's, but it produces larger files (for more on MPEG, see "MPEG Explicated," left). The Xclaim TV also allows you to read and save closed-caption text—great if you want to get a transcript of *Oprah* without paying for it. You can set the application to watch for specific words and alert you when they come up. Eskape Labs' MyTV works in OS 9 or OS X. It also captures video in a variety of formats, including Motion JPEG but not MPEG. It is a little more difficult to set up because you connect your speakers to the MyTV box and then string the included audio cable from the box to your Mac.

If you'd like to get more out of a TV tuner, you have two options. **El Gato's EyeTV** ($199, www.elgato.com; see *Reviews*, p46) connects via USB, is Mac OS X only, and uses MPEG-1 compression. El Gato has an agreement with TitanTV, a Web-based service that allows you to look up your local TV listings and schedule shows for recording. EyeTV gives you two compression settings. The lower compression rate is around 0.2 MBps, or 700MB for an hour of video. The higher rate is about twice as large (1.4GB for an hour of better-quality video). Unfortunately, QuickTime Pro

MPEG EXPLICATED

The glue that holds your Macintosh entertainment center together is MPEG, a set of compression standards from the Moving Picture Experts Group. All versions of MPEG, which squeezes video data into smaller files, use a frequency-based technology called discrete cosine transform (DCT). They also use quantization, which, simply put, guesses what information you can drop without the human eye noticing. Since it discards some information, MPEG is considered lossy (as opposed to lossless) compression.

The committee designed the first version of MPEG, appropriately named MPEG-1, for video CDs, aiming for quality roughly equivalent to that of VHS tape. MPEG-1 video has a resolution of 352 by 240 pixels at 30 frames per second (fps). It requires the modest data rate of 1.5 Mbps, equivalent to that of the first CD-ROM drives and audio CD players. Layer 3 of MPEG-1 is audio, and it's the basis of the MP3 format we all know, love, and steal.

When the committee sat down to develop MPEG-2, it had the loftier goal of coming up with a format that would play crisp, beautiful movies. DVD movie discs and DVB (digital video broadcasting) use this format. It supports resolutions anywhere from 352 by 240 at 30 fps to 1,920 by 1,080 at 60 fps. At the high end, it uses a data stream of 80 Mbps. Your standard DVD video is 720 by 480 at 30 fps.

MPEG-1 and MPEG-2 look at the differences between two consecutive frames and transmit only the information that has changed. Because of this, MPEG frames can't exist independently. That means MPEG can give you much better quality with less data, but it also makes it difficult to edit an MPEG video file. For these reasons you usually want to convert to MPEG format when you're finished with a project, not use it when you're editing.

MPEG-4 (supported by QuickTime 6) is designed for Web distribution. It has more-efficient compression rates, so it looks better over the Internet's limited bandwidth. It also allows interactivity, so users can respond to the video with key presses and mouse clicks. Some versions of MPEG-4 make the frames function independently so you can use MPEG as your video-editing format. Also, MPEG-4 puts audio and video on separate tracks.

Oh, and in case you're wondering, the MPEG committee *can* count. It did develop MPEG-3, an HDTV version of MPEG-2, but eventually rolled MPEG-3 into MPEG-2.

EyeTV gives you controls for pausing and replaying live TV.

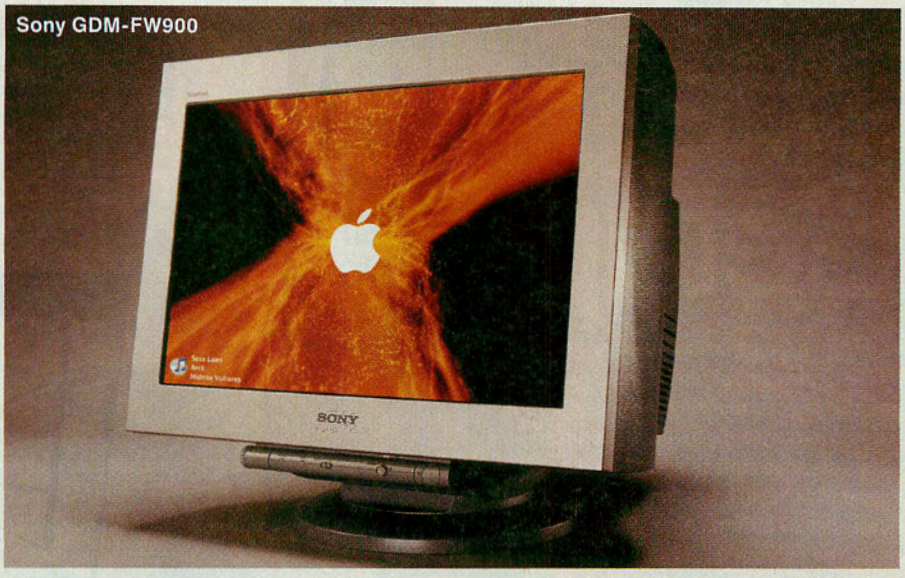
strips out the audio when you convert MPEG-1 and MPEG-2 to DV video for use in iMovie. EyeTV's coolest feature is that you can pause and replay live TV (as with TiVo)—handy when the phone rings during *The Young and the Restless* and you need to find out who cheated on whom after you hang up.

The Formac studio DV/TV with TiVeRon software ($399, www.formac.com) is the only FireWire product. FireWire's higher bandwidth means the device can capture a resolution of 720 by 480. FireWire also allows you to capture TV directly into iMovie, convenient for editing out less-desirable footage—say, any of young Anakin's speaking scenes in *The Phantom Menace*. The OS X–only TiVeRon 1.0 software and the scheduling Web site were not ready at press time, but should be available by the time you read this. According to Formac, TiVeRon will allow you

Formac studio DV/TV

to set a channel and recording time, but for now it won't let you pick the program by name and then let the Web site figure out when to record. You can schedule your studio DV/TV to start recording from a remote location—so if you've forgotten to set your VCR for *Friends*, you can use the TiVeRon Scheduler at work to tell your studio at home to record it.

If you have a DV camcorder, you already know that video consumes drive space like Shaquille O'Neal on an eating binge—to be exact, an hour of DV video swallows 15GB. This type of hobby takes a big hard drive or two. If your Mac's storage shy, you can select another compression format such as MPEG-4, which will only take up 1.5GB for an hour of video.


Sony GDM-FW900

Displays

The ideal setup for a home-entertainment Mac is a large, beautiful monitor for your desktop and personal entertainment needs, and then a projector on a second monitor connection for when the gang comes over to watch *Sex and the City* or *Lord of the Rings* on DVD.

For your main monitor, you have to decide between a flat-panel LCD display or a bulky CRT monitor. LCD displays have been coming down in price over the past few years, but they still cost substantially more than CRTs. CRTs also don't suffer from viewing-angle problems—as your gaze moves from side to side or up and down, the colors stay the same. On the other hand, LCDs take up much less room, are easier to move around, and tend to be brighter—and the latest and greatest models have much-improved viewing angles.

One of our faves is, not surprisingly, the **Apple Cinema HD Display** ($3,499, www.apple.com). The charm of the Cinema HD—besides its lovely design, which will enhance any room's decor (do we sound like a Pottery Barn catalog?)—is that it has very good viewing angles for an LCD. Plus, its wide screen will give you a larger picture when you're watching a movie. A word of warning if you're going to spring for this puppy: Connect it to your Mac's AGP graphics card with an ADC connector. We tried it with a PCI DVI card and a DVI-to-ADC adapter and got nasty artifacts in dark scenes. High Definition (that's the HD in Cinema HD) actually encompasses more than one specification. HD can refer to 1,920 by 1,080 pixels, refreshed 60 times per second at a 2:1 interlace (yielding 30 complete fps), or 1,280 by 720 pixels, refreshed progressively at 60, 30, or 24 fps. The Cinema HD display supports both 1,280 by 720 and 1,920 by 1,080 resolutions. But the Cinema HD isn't just for entertainment—its expansive (and expensive) real estate is fabulous when you're editing video or images.

If you have your heart set on an LCD but your budget is somewhat less than $3,500, you have other options like the **Formac gallery** ($899 to $949, depending on the connector) and the **Sharp LL-T1820** ($1,299, www.sharpelectronics.com). Also, the **Sony SDM-V72W** ($999, www.sonystyle.com), a 17-inch multimedia LCD, is just one of a wave of wide-screen LCDs that will be hitting shelves in the months approaching the holidays. Sure, 17 inches is a little small, but the Sony SDM-V72W's versatility almost makes up for it. You can plug a game system, PC, or DVD player into it and truly make it the center of all your entertainment. Its 16:9 aspect ratio makes it good for viewing HDTV and wide-screen movies. It uses Sony's Wow speakers (the same ones you'll find in Sony's Vega televisions), which are better than the built-in speakers on your Mac but don't exactly fill a room.

Of course you have hundreds of CRTs from which to choose, but the gorgeous **Sony GDM-FW900** ($2,000)—a 24-inch CRT wide-screen display—may be the sexiest. It has bright colors and nice detail if you have room (and the muscles) for its 22 by 20 by 20 inches and almost 100 pounds of heft. Another option is the **Samsung SyncMaster 765** ($219, www.samsung.com), a 17-inch CRT featuring MagicBright. This technology provides three brightness settings, so you can increase brightness when you are watching video and decrease it for text and Internet surfing.

The Setup

Wouldn't it be great if you were on the next episode of TLC's *Trading Spaces* and the decorators decided to redo your living room with high-tech computer equipment, complete with a dual 1.25GHz Power Mac? Since that's not terribly likely, we've had to come up with our own rendition of what your Mac-based home-entertainment center might look like.

Apple Cinema HD Display

If you have the moolah, LCDs are bright and occupy less space. Look for an LCD with a wide-aspect screen and fast response time (under 40 milliseconds). The Apple Cinema HD display is the perfect choice because it looks good from almost any viewing angle—and it just looks good, period.

El Gato EyeTV

Not only does the EyeTV bring TV into your computer and let you pick programs to record when you're out, it can also convert your old VHS tapes to digital. You can use it to pause or replay live TV as well. You'll never leave your house again—guaranteed.

Griffin PowerMate

A throbbing blue knob for volume control and cool factor is a must for the ultimate Mac-based home-entertainment center.

Cable Box

A TV tuner for your Mac will look a lot better if you give it a cable feed rather than using an old rabbit-ear antenna. The tuner software only gives you up to 125 channels, so don't go overboard with digital cable or a satellite dish.

JBL Creature Speakers

You definitely need to spring for some better speakers. Not only are the built-in speakers on a Mac limited in range, you can barely hear them from 10 feet away. And remember what Mom said about sitting too close to the TV screen.

Apple Power Macintosh
Although you could use an iMac for this project, you probably want a system that lets you hook up multiple displays (not mirrored) and extend your internal storage capacity. At the least you want a DVD-ROM drive, but a Pioneer SuperDrive that burns DVD-Rs is even better.

Apple iPod
Even though you probably won't want to leave your awesome new nest, you might need to at some point. Well, don't leave home without 20GB of your favorite tunes.

Collection of DVDs
Now that DVDs are renting for almost $5, you might as well buy 'em and keep 'em.

Keyspan Digital Media Remote
Once you're settled in your recliner, you don't want to have to get up to pause the movie or change the channel. Keyspan's remote is minimal, but it works with Apple's DVD Player and the EyeTV.

Bowl of Popcorn
Popcorn is the perfect nosh for the movies, and the grocery-store variety doesn't cost you $10 the way it does at the theater. Plus, it still provides ample opportunity for that ol' accidental hand-reaching-in-at-the-same-time trick.

InFocus ScreenPlay 110 Projector
Been wanting to paint that big blank wall a pleasing shade of white? A projector can fill that space with video images. If your viewing room is generally bright, go for a projector with at least 1,500 lumens. If you can pull the drapes, a lower-lumen multimedia projector will give you more shadow detail.

Pocky Sticks
Run down to your local Japanese grocer and get these sweet treats. They make an ideal dessert after you're all salted up on popcorn.

Projectors

Multimedia projectors are the latest fashion "do" from all the projector companies. What sets these projectors apart from business models is that they generally have better speakers, better analog-to-digital converters, and lower brightness optimized for make-out sessions...uh, we mean viewing in dark rooms. Home-theater projectors tend to be heavier, although the heaviest are only about 15 pounds—the weight of a four-month-old baby or a fat cat.

Just because it's called a home-theater projector, though, doesn't mean it's the right projector for your home. Projector speakers aren't very good, and you have to compete with the sound of the projector's cooling fan. Get separate speakers.

Projector brightness is measured in lumens, and current projectors range from 800 lumens to over 3,000. Projector manufacturers assume you'll be using home-theater projectors in a fairly dark room. If you have good drapes or only want to use the projector to watch the midnight horror movie, a low-brightness projector can give you better detail in dark, shadowy scenes. If you plan on using the projector for your Super Bowl party, you'd be better off with a business projector that has 2,000 lumens. A higher-lumen projector is easier to see when the lights are on.

Many home-theater projectors use the Faroudja image-processing chip (www.faroudja.com), designed to convert analog video from your TV or VCR to a digital RGB image. However, this doesn't help if you're feeding a signal directly from your Mac, so you may not need that feature.

Epson's PowerLite TW100 Multimedia Projector ($4,999, www.epson.com), the company's first home-entertainment projector, uses a three-LCD technology. Its 700 lumens are fine for a darkened room, but for brighter surroundings the **Epson PowerLite 730c Multimedia Projector** ($3,844) is a better choice at 2,000 lumens. We also liked the color quality of the **InFocus ScreenPlay 110** ($4,999, www.infocus.com), a 1,000-lumen DLP projector.

Epson PowerLite TW100

If you don't know your DLPs from your LCDs, here's the deal: LCD (liquid crystal display) projectors use three tiny active-matrix, polysilicon LCDs, each about the size of a postage stamp. Each LCD creates an image's red, green, or blue content. DLP (digital light processing) is Texas Instruments' term for digital micromirror device (DMD) technology. DLP uses an array of tiny mirrors tilted by microscopic electrodes that a digital signal controls. As the mirrors move, they reflect red, green, blue, and white light toward a projection lens. In general, DLP projectors have better detail and brightness, especially in still images and text, and LCD projectors offer better color quality.

Speakers

The pretty pictures may entrance you, but to bring the complete movie experience home, you have to beef up your sound system. A good audio setup is the difference between watching your favorite movie and feeling as if you're *in* the movie. The built-in speaker on your Mac is only strong enough if you are a few feet away from your computer, not if you're sitting on the beanbag chair in the back of the room. The minijack on the back of your Mac lets you connect a set of more powerful stereo speakers, but the sound from this jack has a limited range, and Apple no longer offers RCA connectors. Luckily vendors are coming out with products that take advantage of USB audio.

Klipsch ProMedia 5.1

If you're using your Mac as a component of your home-entertainment center for movies or to play MP3s, you may want to connect the Mac to your stereo or home-theater receiver and use those speakers. Connecting a Mac to a receiver is pretty straightforward: Run down to your local electronics store and buy a cable with a 1/8-inch stereo-jack adapter on one end and a pair of RCA connectors on the other end (RCA audio connectors are usually red and white or black and white). Plug the 1/8-inch adapter into the audio-out port on the back of your Mac. Plug the RCA jacks into the auxiliary connectors on the back of your receiver. Power up your Mac and receiver, switch the receiver to auxiliary, and listen to the Mac's sound playing through your home-entertainment system.

There's one drawback to this connection: It uses the audio from the Mac's built-in sound system, which is not optimal. For better sound, you can use a USB audio connector, which hooks to your Mac through the USB port and can improve the quality of the sound sent to your receiver. For instance, the **Xitel HiFi-Link** ($50, www.xitel.com; see *Reviews*, p54) comes with a 30-foot 1/8-inch cable for connecting audio to dual RCA jacks. This setup offers improved high and low frequencies and produces clearer, crisper sound, with better response for low- and high-pitched sounds.

Mac OS X has lots of features that make it an ideal operating system for your home entertainment system, but OS X lacks one major feature: surround sound support for either Dolby Digital or DTS. **M-Audio's Sonica** ($90, www.m-audio.com) is a clever USB device that attempts to bypass this limitation. Connect it to two speakers, and though it won't give you true surround sound, the included TruSound XT technology makes the bass sound deeper and the dialogue clearer, and it does

synthesize surround sound.

M-Audio hopes that Apple will soon come out with a DVD player that supports the state-of-the-art Dolby Digital 5.1, formerly known as AC3. Dolby 5.1 has five distinct audio channels, plus a subwoofer. With 5.1 speakers such as the **Klipsch ProMedia 5.1** ones ($399, www.klipsch.com), sounds can ricochet around you. Until Apple updates its software, you can try out the technology with VLC DVD Player, an open-source Linux player available from the M-Audio site. It isn't very polished, but it will run on your Mac and give you surround sound if you have the Sonica and a 5.1 speaker system.

Even if you play audio directly from the Mac, your sound experience will benefit from a high-quality set of speakers. And get a subwoofer—you'll be surprised how much of a difference that makes. Speaker sets are widely available, but we're partial to the **Monsoon iM-700s** ($170, www.monsoonpower.com). We also love the look of the **JBL Creature** speaker system ($130, www.harmanmultimedia.com; see *Reviews*, p55). Sure, the satellites resemble rejected spaceship designs from *Star Wars* and the subwoofer looks like a bulge in Vin Diesel's pants, but they sure do sound sweet—and they look cool too, which is important when it comes to impressing the ladies or menfolk you're keeping company with these days. The Creature is available in light gray, white, and blue.

FRONT AND CENTER

Of course, the most important part of your computer-based home-entertainment center is your Mac itself. A desktop Power Mac G4 is your best bet for handling all the entertaining, although we admit that the idea of slipping an Xserve in with our other entertainment components intrigued the nerdy side of our collective personality. You can get an Xserve configured with four internal hard drives for storing oodles of digital video, as well as an ATI Radeon 8500 AGP graphics card for kickin' game playing. However, it only comes with a CD-ROM drive, and the drive slot is too small to take a full-height DVD drive like the Pioneer DVR-A04. Plus, the Xserve's fan is hella loud—make sure to get a powerful pair of speakers.

Other parts you'll need to consider are hard drives and graphics cards. Video files are big; if you plan on recording TV or video clips, you'll need extra storage. If a projector or other big-screen display appeals to you, you'll need a second video port. The iMac and iBook support two displays, but only if the second one is mirrored. Recent PowerBook G4s let you use both screens. The latest Power Mac video cards have two ports, or you can add a second PCI video card to an older Power Mac for some extra viewing action.

DVD Players

You've just purchased a videotape of *Breakfast at Tiffany's*, but you'd enjoy it so much more if you could delete all the scenes with Mr. Yuniyoshi. You want to save the movie to DVD-R to prevent it from degrading over time and to watch it on the road (by the way, a VHS videocassette will start to degrade as early as the 20th time you watch it). You can import the movie from your VCR using one of the TV tuners we described earlier, edit out the scenes that make your skin crawl, and then burn the improved movie to DVD.

If your Mac doesn't already have a DVD-R drive or a SuperDrive, you can easily install the IDE **Pioneer DVR-A04** or **Pioneer DVR-104** ($280 ESP, www.pioneerelectronics.com). According to Larry O'Connor, president of Other World Computing (seller of the DVR-104), both devices work with Apple's iDVD. But what if you're iDVD-less? Well, rumor has it that you can buy a copy of the Apple iDVD 2.1 updater ($20, www.apple.com), which provides a full installation of the app, to work with the internal Pioneer drives.

Another option is to buy an external FireWire DVD-R drive and cough up the cash for the not-cheap **Apple DVD Studio Pro 1.5** ($999) (sorry, iDVD won't work with any external or non-Pioneer drive). Or you can buy the **Formac devideon superdrive** ($549, www.formac.com) and use the company's new proprietary DVD-authoring software.

Even if all you have is a CD-R, you can burn a video CD using **Roxio Toast 5 Titanium** ($90, www.roxio.com). A VCD will work in many DVD-ROM drives and DVD video players, and while it won't have a pretty interface, it will play MPEG-1 video.

So what about buying a progressive-scan DVD player for viewing DVDs? For those of you who aren't video geeks, progressive scan, rather than quickly flashing odd and even lines and letting your brain meld them together, gives you all of the information at once and hence yields a sharper picture. Unfortunately, if you plan on connecting a DVD player to your computer, you'll lose the advantages of progressive scan. DVD software players aren't as high quality as dedicated hardware players. As your Mac converts the video signal for a computer screen, you lose the extra video quality.

ATI Remote Wonder

Remote Controls

Remember the old days when you had to get up to change the channel? If you don't, well, let us tell you—it was just awful. You want a remote control to flip channels when you're watching TV, control your DVD when you're viewing a flick, and pause iTunes when you're listening to music. Most multimedia projectors come with a mouse-controlling remote. For your main monitor, try the adorable little **Keyspan Digital Media Remote** ($49, www.keyspan.com). It comes preprogrammed for a few applications, including iTunes, PowerPoint, QuickTime, and Apple's DVD Player, and can also control EyeTV. It will work with other applications, but you have to program them manually.

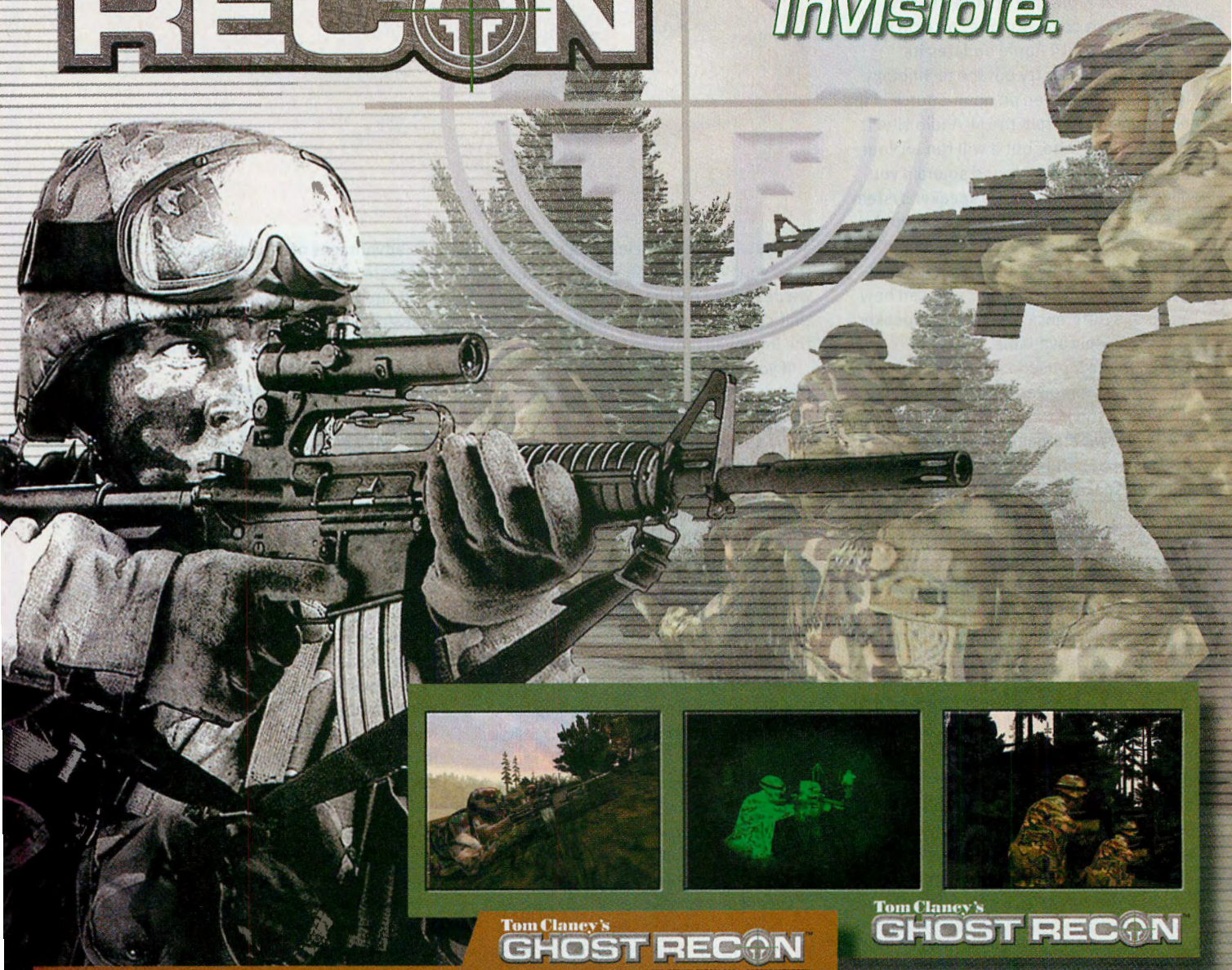
We're also looking forward to the **ATI Remote Wonder**, which ATI expects to ship by October or November 2002 for about $50. We tried the remote with an alpha version of ATI's software, which is already mapped for Apple's DVD Player, iTunes, and Acrobat, as well as a Web browser. It has a full number pad that will come in handy for controlling TV-tuner hardware.

Finally, the **Griffin Technology PowerMate** ($45, www.griffintechnology.com) is a nice doohickey to have around. With an awesome glowing blue light, this knob will control volume and even scrub through video in apps like iMovie.

Kristina De Nike has been following the Mac market for ten years, most recently as the lab director for that other Mac magazine (shhhh). She's never worked from home before. She would have finished this story a lot faster if she hadn't kept taking TV breaks.

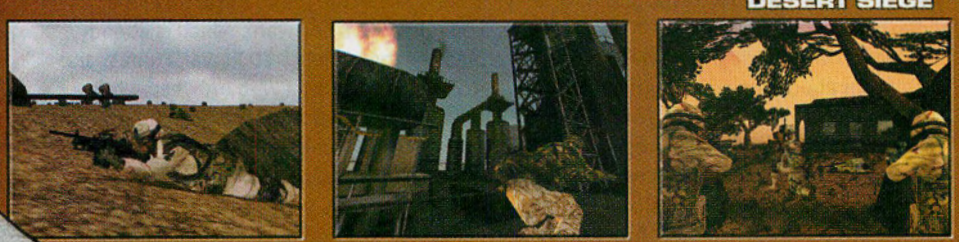
Tom Clancy's GHOST RECON™

Swift. Silent. Invisible.



Tom Clancy's GHOST RECON

Tom Clancy's GHOST RECON DESERT SIEGE



INCLUDES

Tom Clancy's Ghost Recon™ & Desert Siege™ Mission Pack

MATURE M CONTENT RATED BY ESRB — Blood and Gore Violence

Mac

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We might as well admit it up front: The *Reviews* section this month is an Apple love-fest. The new Dual 1GHz Power Mac, 17-inch iMac, 20GB iPod, and Xserve—they're all in here, and we think they're all pretty damn cool. Scratch that: We *know* they're all pretty damn cool. We also feature the Creature speaker system (pictured here), a beer- and coffee-proof keyboard, an utterly spooky action game, and a tale of two TiVo-like video recorders—one that's ready for primetime and one that's a pain in the prime rib. Coming soon: external SuperDrives claiming Mac compatibility, plus a 5-megapixel Minolta digital camera (it actually turned up in this month's collection, but our reviews editor needed to, uh, test it while on vacation in the sunny isles of Greece).

This**Month:**

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54 **HiFi-Link** *USB home-stereo connector*
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46 **MyTV X 1.0** *TV recorder*
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PLUS:

The**Hot**List

56 **The best of the best from recent reviews.**

MacAddict RATINGS

MacAddict RATED AWESOME — You'll be blown away.

MacAddict RATED GREAT — You'll be impressed.

MacAddict RATED SOLID — You'll be satisfied.

MacAddict RATED SO-SO — You'll be disappointed.

MacAddict RATED LOUSY — You'll be pissed off.

X Compatible with Mac OS X or later.

9 Compatible with Mac OS 9 or earlier.

EDITORS' MacAddict CHOICE — If we were shopping for this type of product, this is the one we'd buy.

Dual 1GHz Power Mac

G4 TOWER

Apple has topped itself again. It's squeezed another generation of life out of the venerable PowerPC G4, and has done so in such a way that a new dual-processor 1GHz Power Mac G4 soundly thrashes the previous dual 1GHz incarnation.

You can read all about the inner workings of the new Power Mac series in this month's feature, "The New Power Macs: Inside and Out," p20. Mere specs, however, don't say what it's actually like to drive a Power Mac. After a few days behind the wheel of a new dual 1GHz Power Mac, we can confidently state that everything's snappier: menus, Web surfing, application launching, video production—everything.

We can confidently state that everything's snappier.

Here at the *MacAddict* Transglobal Intelligence Complex, we've affectionately dubbed the new Power Mac the Cheesegrater because of its four front portholes—and back full of just plain holes—that allow its four fans to suck a veritable torrent of air into, through, and out of its innards. This airflow must cool not only two toasty PowerPC processors, but also six storage devices (including two optical drives with heat-inducing lasers), four full-length PCI cards, and four 512MB DDR SDRAM DIMMs. As you might expect, when the fans are operating at full blast, the noise is considerable. Fortunately, the fans only kick in when needed—and since our test unit had only one hard drive, one optical drive, and no PCI cards, its variable-speed main fan spent most of its time vacillating between comfortingly quiet and borderline annoying. If and when we stuff the system full of drives and a full complement of PCI cards, however, all bets are off.

To compare the performance of the new Power Mac with a just-discontinued dual 1GHz Quicksilver model with 512MB of SDRAM, we first bumped up the new model to 512MB (it ships with a measly 256MB) by adding a 256MB PC2700 DDR SDRAM DIMM[1]. (Apple, by the way, won't sell you a 256MB DDR DIMM, but we found them on the street for $55 to $110. Caveat emptor.)

In our first test, we used QuickTime Pro 6 to export a 2GB DV file in MPEG-4 format. The new model whipped the Quicksilver handily, with an average time of 6 minutes and 50 seconds versus the Quicksilver's average of 8 minutes and 36 seconds. Since both machines were running Mac OS 10.2 Jaguar, we also ran the same test on a dual 1GHz Quicksilver running Mac OS 10.1.5 just for giggles. It took a full 9 minutes and 32 seconds on average—only 72 percent as fast as the new dual 1GHz Power Mac running Jaguar.

Next we compared the performance of the new Power Mac's ATA/100 hard drive bus with the Quicksilver's ATA/66 bus by copying a 2GB file in the Finder. The new Power Mac completed the chore in just under 2 minutes; the Quicksilver took 2 minutes and 45 seconds. Impressive.

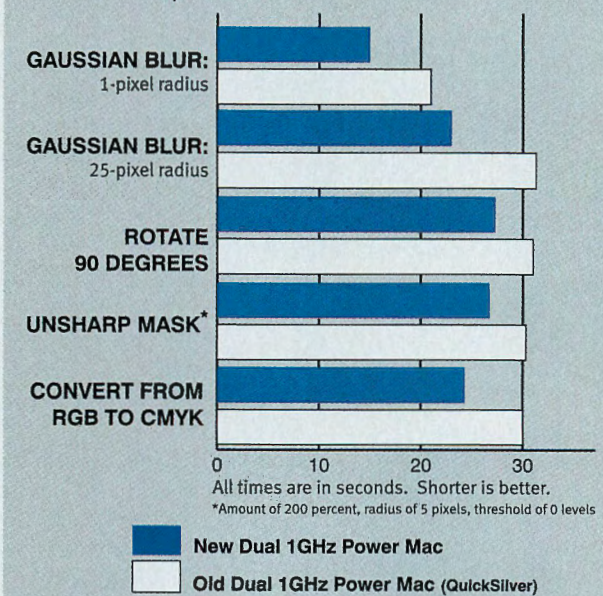
Finally, we dusted off our Photoshop test suite and put the new Power Mac to work on what many users will buy it for: speeding through blurs, filters, rotations, and conversions. Again, the results were remarkable: The new dual 1GHz Power Mac averaged a 20 percent improvement over the dual 1GHz Quicksilver (see "Megahertz Doesn't Matter," left). Not too shabby—and this puts the final nail in the coffin of the old, tired idea that megahertz is the only thing that counts.—*Rik Myslewski*

PHOTOGRAPH BY MARK MADEO

Can the new dual 1GHz Power Mac outperform the former top-of-the-line dual 1GHz Power Mac, aka Quicksilver? It can, and it does.

Megahertz Doesn't Matter

There's more to making a high-speed machine than cramming it with the fastest processors you can find. The new Power Mac's advanced system design makes a big difference, as our Photoshop tests showed.



We tested in Photoshop 7 using a 115MB PSD file. Both Power Macs were equipped with 512MB of main memory and were running Mac OS 10.2 Jaguar. The new dual 1GHz Power Mac had 1MB of L3 cache per processor; the older dual 1GHz Power Mac Quicksilver had 2MB of L3 cache per processor.

COMPANY: Apple
CONTACT: 800-795-1000 or 408-996-1010, www.apple.com
PRICE: $2,499 (SRP)

SPECIFICATIONS: Dual 1GHz PowerPC G4 processors, each with 256K on-chip L2 cache and 1MB backside L3 cache; 167MHz system bus; 256MB of PC2700 DDR SDRAM; 80GB Ultra ATA/100 hard drive; SuperDrive; ATI Radeon 9000 Pro graphics card with ADC and DVI ports

GOOD NEWS: Fast. Multiple hard drive bays. DDR SDRAM expandable to 2GB.
BAD NEWS: Noisy. Processor's design doesn't take full advantage of DDR SDRAM.

MacAddict RATED 4.5 GREAT

[1]We are proud to announce a new *MacAddict* acronym-length record: a full 23 characters of mind-rattling techiedegook.

personals

like ships passing in the n

SUPERMART ...ot older gal with Spin... working at WFM. Me... with curly pony tail. ... hot lunch? ☎6922

COC... PLE. I did not get... made my day, yo... autiful. I would l... n. Did I read

...OPHONE-PLAYING ...ithville recently ...Georgia. ☎6854

...WE MET IN MADISON, ...ummer. Would like to talk ...gain! ☎6967

...FROM WCW. Exchanged ...ces at cage match. It was pure ...gic. Would love to get you in a ...eper hold. ☎5627.

BEAUTIFUL AND SEVENTEEN: Met you at the Metro. You were on a date with someone else. Next time it will be me. ☎6973

...EVITATING BUDDHA SWORD-...LAY ...wding lady. I'm interested. ...If your love has wood-carved ...☎6758

VEGETARIAN BOWLER. You bought me a warm beer and stole my heart. Used same kind of ball and spoke of hatred of rented shoes. Would love to chat over hummus. ☎5684.

LAWN CARE? My husband got lazy and hired you to mow our lawn. Instead you landscaped my erotic fantasies in ways I have never imagined. Could not pronounce your name but looked very sensual. I had blue shoes on. ☎3696.

TWINS WHO SAW TWINS. Us: two handsome guys in suspenders walking Maltese. You: two foxy ladies fighting over last piece of gum. What do you say the four of us make two good looking couples? Twin love. Call me. Call me. ☎4747.

DUGOUT FIRECRACKER. You were cleaning up a beer that you spilled on your white t-shirt and threw a whiskey bottle at the umpire. Must meet you and make children. ☎5551.

LORIN, YOU'RE GORGEOUS, funny and brilliant. I don't deserve you but a girl can dream. ☎6885

SY FROM DOWN SOUTH. You sat with us at Smitty's 11/24, missed you at The Boot. Wanna meet after work sometime? Call and gimme your number. Jenny. ☎6327.

CLASSY LATINA With substance, 30 plus, non-smoker, very pretty, spiritual, passionate, intelligent, eleven...

RON FROM SANTA FE. You danced with me at the Rattle & Cattle Club. Thanks! I was shy. Can I see you again? Will come down to look for you Friday night. ☎6841

GORGEOUS, WITTY, BORN TO tease: love theater, dance, golf, warm conversation. If you're tall, 35-55, non-smoker, financially secure, enjoys pampering a woman, traveling, long walks and stars, please call. ☎6821

ME: LONELY SWEDISH LINGERIE MODEL and gourmet cook. You: slightly overweight and without ambition. Must be into computers, role-playing games and air hockey. ☎5988.

49, PLAIN BUT WITH GOOD BITS, overweight but curvy, great mind, wicked sense of humor, and a weird view of life looking for like minded person. Age not important. ☎6994

TREE HUGGER, MID 50'S, light smoker, tall. Like easy living, tropics and I'm friendly. Seeking considerate, semi-fit companion with a clue. Must love dogs and reggae. ☎6963

ARE YOU HONEST, handsome, successful, financially secure, intelligent, world traveled, cultured, creative, fit, playful, adventurous, passionate, humorous, caring, loving, and between 46 and 56? Respond to European, blonde female coun...

ARE YOU STIMULATED BY beauty, intelligence, humor? Attractive SWF wants good looking SWM or SHM for romantic adventures, possible long term. Essentials: honesty, passion, kindness, sensuality, integrity, open mind. ☎6741

ATTRACTIVE TALL (5'10"), slender DPWF, 46, emotionally and physically fit, youthful appearance and outlook, intelligent, loving, desires long term relationship. ☎6853

YOU WON'T BELIEVE YOUR EYES when you see this very cute, petite, DWF, 46, long brown hair/hazel eyes, 5' 110, outoing personality seeks DWN, 46-55, non smoker, fit, college educated. Call me, let's see if the chemistry is right! ☎6951

SWF, 26, STRAWBERRY CURLS ...and tattoos. Craving a complex ...enlightened, educated companion ...

NOT SO DESPERATELY seeking one smart, strange, sexy boy to court and spark. Me: 23, open to possibilities and ravenous for new life experiences. ☎6933

SWINGING SANTA. Lonely man who only works 6 weeks a year seeking woman with full time employment with benefits looking to grow old with man who shakes like a bowl full of jelly. ☎1258.

WM, 95, RECENTLY WIDOWED, seeking 18-20 hottie for "fun". Call soon. I'm not getting any younger. I'll put you in my will. ☎6757

BALD ROMEO. You serenaded the old people at the old people home last weekend. You were a terrible singer and quite unattractive, but your heart is obviously pure gold. My sister would be perfect for you. ☎7887.

MONKEY TRAINER. Seeking woman to train my monkey. Seriously, his name is Murphy and he is a 3 year old chimpanzee. He likes pop tarts and nice people. Plus, you and I will have sex. ☎7874.

SINGLE MAN. Single man seeking single woman for relationship. I enjoy dating and talking on the phone to women that I am dating. Would love a chance to date some...one. ☎1254

CUTIE PIE SMARTY PANTS art girl ...arty bar for drinks and ...☎6...

SIDESH... sidesh... well ... for ... ron... ar...

MANY WONE... my life - but no ... wonderful woman, ... smart, professional, at... (non smoker). Love of natur... irreverent humor. ☎6772

RECENTLY PAROLED, looking for a lady who will keep me on the straight and narrow. Must be into drugs and shoplifting. ☎6357

HOPELESS ROMANTIC, seeks ...

We're Easier.

Create anything from prototypes to full professional applications. Just drag and drop interface elements while REALbasic handles the details. You concentrate on what makes your stuff great — your ideas! REALbasic creates native compiled applications for Macintosh, Mac OS X and Windows without platform-specific adjustments. It's the powerful, easy-to-use tool for creating your own software. Each version of your software looks and works just as it should in each environment.

Complex problems shouldn't require complex solutions. The answer is REALbasic.

REALbasic 4.5 NEW VERSION

Download a free demo. www.realbasic.com

Star Wars: Galactic Battlegrounds

REAL-TIME STRATEGY GAME

Darth Vader leads the charge to capture a Rebel-controlled food court.

We've all fantasized about taking part in the great saga of galactic turmoil that is *Star Wars*. Perhaps you dream of leaping into a TIE fighter or building a powerful army of Jedi masters. With Galactic Battlegrounds, *Star Wars* fans can finally join the faction of their choice to take a place in interstellar history—or just kick some galactic butt.

Galactic Battlegrounds offers six races from which to choose: Rebels, Gungans, Trade Federation, Galactic Empire, Wookies (*rawrrrr*), and the oppressed Royal Naboo, though there's no single-player campaign for the latter. Each race has unique units and building styles, and while they're fairly balanced overall, they excel and lag in different areas, so you'll need to learn different strategies for each.

At the core of Galactic Battlegrounds is a wealth of units (groups of characters of a specific class, such as warriors or farmers)—over 500 of them, divided among the six races, plus all the heroes and villains that make the *Star Wars* universe unique.

The units are just one facet of the game's massive array of specialization. Each race features a staggering panoply of warriors—including foot soldiers, strike mechs, Jedi, transports, artillery, and units that specialize in destroying buildings—along with a number of counterunits specifically engineered to battle them all. These options provide the fodder for a range of deep strategies. They also take micromanagement (a hallmark of the real-time strategy genre) to unprecedented new levels—you have to keep track of four separate resources (Carbon, Food, Ore, and Nova Crystals) to build a unit.

While we're on the subject of units, one minor complaint: Why can't Jedi deflect enemy fire with their light sabers?

The single-player campaigns are interesting, covering aspects of the *Star Wars* story line that the films hint at but leave unexplored (such as the Trade Federation's occupation of Naboo and the Gungan's civil unification). Once you've completed those, take to the Internet and battle your friends online. The game offers an impressive range of multiplayer options, including economic and cultural victories for those who prefer nonviolent resolution of conflict, and a special deathmatch mode that starts off all players with hordes of resources and full technological development.

Fans of either RTS games or *Star Wars* should snatch this one up.

If that isn't enough, Galactic Battlegrounds worked fine with almost all the player-created levels we downloaded from the Internet (one especially good site for this is http://swgb.heavengames.com); just make sure not to download a mission that requires the Clone Campaigns expansion (unless you've got the expansion pack—it should be available at Aspyr's Web site by the time you read this). Our only major complaint: Despite the cross-platform–networkable Age of Empires engine at its core, you can't network the Mac version of Galactic Battlegrounds with the PC one.

This is one of those rare movie-based games that's both fun on its own terms and true to the original. Fans of either real-time strategy games or *Star Wars* should snap up this title—but expect a bit of a learning curve if you aren't already a StarCraft expert.

—Rich Pizor

The Gungans prepare to do battle with the Trade Federation. Sadly, you lose if they kill Jar-Jar...

COMPANY: Aspyr
CONTACT: 512-708-8100, www.aspyr.com
PRICE: $49.95 (SRP)

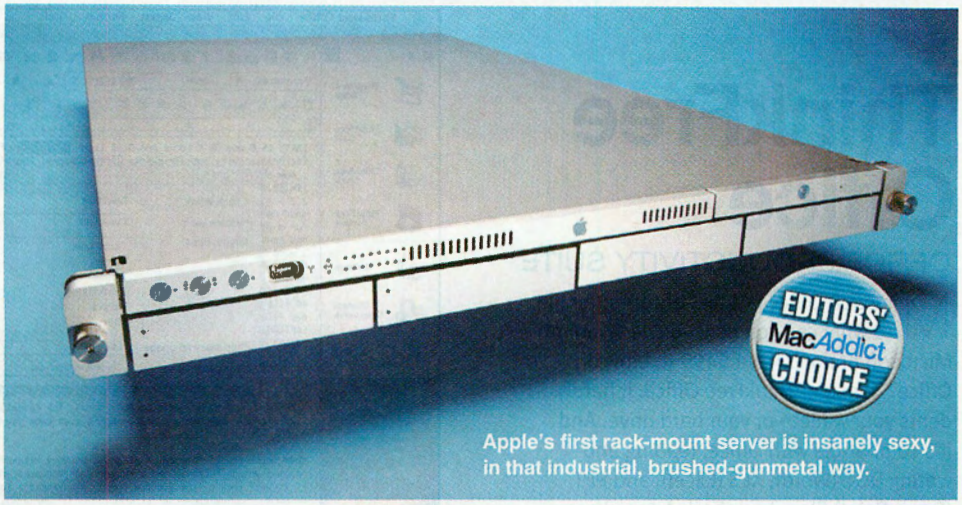
REQUIREMENTS: G3 300MHz or faster, Mac OS 8.6–9.x or 10.1 or later, 64MB of RAM

GOOD NEWS: Boba Fett—'nuff said. Surprising depth for an RTS game.
BAD NEWS: No cross-platform networking. Resource management has never been more micro. Gungan vocals are still annoying.

MacAddict RATED
9
GREAT

Xserve

1U RACK-MOUNT SERVER



Apple's first rack-mount server is insanely sexy, in that industrial, brushed-gunmetal way.

PHOTOGRAPH BY MARK MADEO

Apple likes to remind us that with the release of Mac OS X, it became the leading distributor of an operating system based on Unix—the most robust server OS on the planet. It's only natural that the company would back it up with some kick-ass server iron. Enter the Xserve: Just keep in mind that it's at the low end of a market where high-end machines sport dozens of processors and start at half a million dollars.

Xserve's svelte 1.8-by-17.6-by-28.0-inch box is stuffed with all the trimmings of computing's next generation: up to 2GB of 266MHz DDR (double data rate) RAM; dual Gigabit Ethernet ports; a 66MHz PCI bus that shuffles data twice as fast as standard 33MHz PCI; and four individual Ultra ATA/100 controllers, so when the data really starts flying, you've got a theoretical 100 MBps of bandwidth per hard drive. We tested the standard dual 1GHz G4 model; a single 1GHz model is also available for $2,999.

The drives aren't only fast, they're SMART (equipped with self-monitoring, analysis, and reporting technology)—you get a warning before a disk goes south. Of course, they're not so smart if you accidentally bump into the drive bay that contains your boot drive: We did, and even with the drive-bay lock engaged, this unseated the connection and froze the server. Bummer—but in regular use, we'd avoid such mishaps by keeping the included front-panel protector in place.

Besides the front-panel guard, the Xserve comes with all the necessary hardware for mounting in industry-standard 19-inch two- or four-post server racks. As you'd expect from Apple, everything is smartly designed, right down to the cable-management arm that keeps cables in order when you slide the server out of the rack on its reassuringly solid drawer mechanism.

If you've got a rack full of Xserves, you'll appreciate the System Identifier lights—LEDs on the front and back of the box. If a server crashes or needs attention, these light up so you can easily find the machine in a rack stacked with 42 identical units.

To see how those specs hold up in the real world, we clocked the Xserve against a Quicksilver Power Mac with dual 1GHz processors. The results (see "Dueling Dualies," below) were predictable, given the similarities and differences between the two machines:

Rounding out the Xserve package is all the software you need.

Processor-intensive tasks (actions and renders with small files) were a wash, but when we threw huge DV files and heavy Photoshop jobs (100MB plus) into the mix, the Xserve clocked in at up to 20 percent faster than the tower. Not too shabby, but we'd like even more, given the hype surrounding DDR SDRAM.

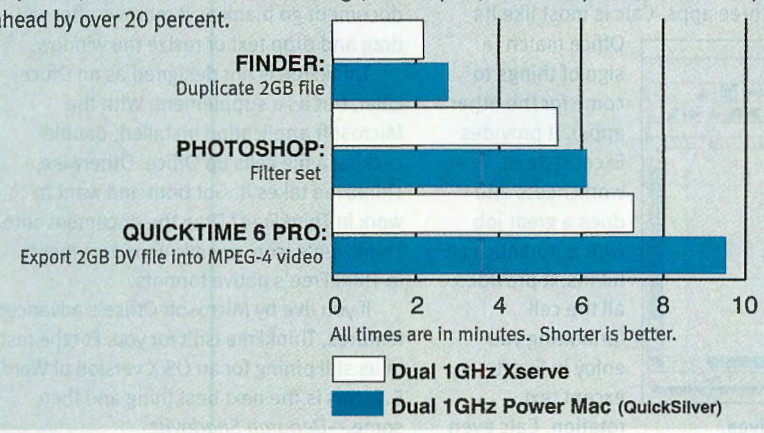
Rounding out the Xserve package is, logically enough, all the software you need to set up, operate, and maintain a server: Mac OS 10.2 Server with an unlimited-clients license and Apple's Server Monitor; Workgroup Manager, NetBoot, Server Admin, and other apps for setting up and maintaining users, access privileges, and configurations; and Web power tools including Apache Web server, WebObjects, and QuickTime Streaming Server.

Xserve is a great entry-level server, especially for serving large files over a fast local network or hosting a high-traffic Web site. Joe Homepage with his home-served Web site would do better with a Power Mac G4 tower.

Oh, and one more thing: To our inner geek's squealing delight, the Xserve has a DB-9 serial port on the back, where you can attach your old green-screen terminal and administrate like a real IT veteran.—*Niko Coucouvanis*

Dueling Dualies

We pitted sibling against sibling: Xserve versus Power Mac G4, each running Mac OS 10.1.5 and stoked with dual 1GHz G4s and 512MB of RAM. It was a draw for processor-only (small-file) tasks, but on a 2GB DV file and big (100MB-plus) Photoshop files, the Xserve pulled ahead by over 20 percent.



COMPANY: Apple
CONTACT: 800-795-1000 or 408-996-1010, www.apple.com
PRICE: $3,999 (SRP)

SPECIFICATIONS: Dual 1GHz G4 processors, each with 256K of L2 cache and 2MB of L3 cache; 512MB of DDR SDRAM (at 266MHz); 60GB ATA/100 hard drive; dual Gigabit Ethernet; ATI video with 32MB of VRAM; two 64-bit, 66MHz PCI slots; one 32-bit, 66MHz PCI/AGP 4X slot; 24X CD-ROM

GOOD NEWS: Four ATA/100 controllers. Fast.
BAD NEWS: No integrated or redundant UPS. Loud.

MacAddict RATED GREAT

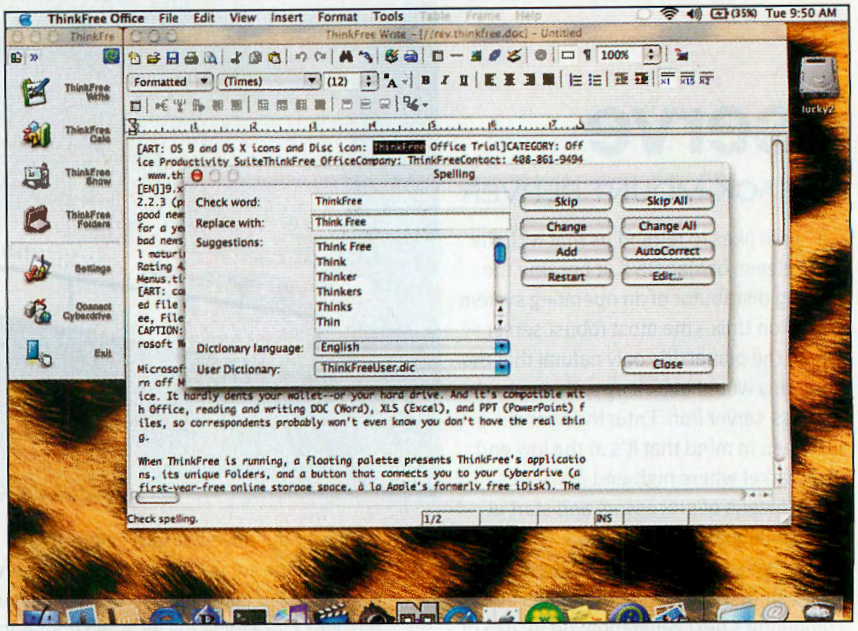
ThinkFree Office

OFFICE PRODUCTIVITY SUITE

Microsoft Office is a fact of computer life. So what can you do if you've sworn off Microsoft or don't have $499 to blow on Office? Consider ThinkFree Office. It hardly dents your wallet—or your hard drive. And it's compatible with Office, reading and writing DOC (Word), XLS (Excel), and PPT (PowerPoint) files, so nobody has to know you don't have the real thing.

When ThinkFree is running, a floating palette presents ThinkFree's applications, its unique Folders, and a button that connects you to your Cyberdrive (a first-year-free online storage space, à la Apple's formerly free iDisk). The ThinkFree Write button launches Write and presents your first word-processing page. Likewise, the Calc button launches ThinkFree's Excel counterpart, and the Show button starts the PowerPoint counterpart. Each app looks and behaves much as you'd expect it to based on the Microsoft software. However, it doesn't provide every feature of the Microsoft original.

Within Write, basic functions like text selection and formatting very much follow the Word model. If you're a Word user, you may find Write frustrating, as it's missing Word's interactive spelling and grammar checkers and contextual spelling correction. But if you're used to any other word processor, you'll find ThinkFree's spelling checks more than adequate. Write is missing multicolumn text flow, linking text boxes, text wrap around a graphic, and drop caps; also absent are comments, highlighting and change tracking, which may matter greatly if you're working collaboratively. It also doesn't include tools such as data merge, envelopes, templates, and addresses. We know a lot of Word users who won't even notice.



ThinkFree Write doesn't match all of Word's features, but it's good enough for government work.

PowerPoint presentations fare generally well when ported to Show. However, WordArt doesn't render at all, and PowerPoint's automatic numbering translates into bullets. Other big absentees include PowerPoint's Notes, which guide you through the presentation, as well as the rehearsal feature, voice recording for narration, sound, and the custom button control.

Of the three apps, Calc is most like its Office match (a sign of things to come for the other apps). It provides Excel-style worksheets and does a great job with automatic cell fill-ins. It provides all the cell formatting you enjoy in Excel except text rotation. Calc even has the same Format Painter that makes character formatting easy in Excel. (Format Painter is indispensable in Word too, and promised for future versions of Write.) Excel Pivot Table users have to do without, though, as do database or macro users.

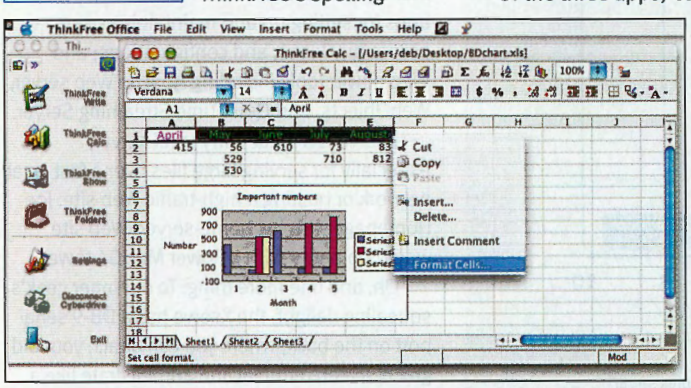
ThinkFree's Office isn't as polished as Microsoft's, and some bits of the interface are downright annoying. To pick a style, font, font size, or magnification, you can't just click the menu and scroll or drag to your target. Instead, you must click scrollbar-arrow buttons until your choice appears, then click it. It's also a bit disconcerting to see your document go blank as it redraws after you drag and drop text or resize the window.

ThinkFree Office is the next best thing and then some.

ThinkFree is not designed as an Office-killer, but as a supplement. With the Microsoft application installed, double-clicking a file calls up Office. Otherwise, ThinkFree takes it. Got both and want to work in ThinkFree? Drag the document onto ThinkFree's icon, or save your documents in ThinkFree's native formats.

If you live by Microsoft Office's advanced features, ThinkFree isn't for you. For the rest of us still pining for an OS X version of Word 5.1, this is the next best thing and then some.—*Deborah Shadovitz*

ON THE DISC
ThinkFree Office 2 trial



Calc is the most Microsoft-like of ThinkFree's Office alternatives.

COMPANY: ThinkFree
CONTACT: 408-861-9494, www.thinkfree.com
PRICE: $49.95 (SRP)

REQUIREMENTS: G3 or faster, Mac OS 8.6–9.x or 10.1.3 or higher, 64MB of RAM, Java 1.3.1 update 1 (OS X) or MRJ 2.2.3 (pre-X)

GOOD NEWS: Solves most don't-have-Office problems. Easy to use. Free updates for a year. Small footprint.
BAD NEWS: Java is still slow. Help isn't searchable. Limited dictionary. Still maturing.

MacAddict RATED
GREAT

20GB iPod

MP3 PLAYER

As devoted fans of the original iPod (*Reviews*, Feb/02, p44), we Mac addicts were hot with anticipation when Apple announced the latest version of our favorite MP3 player. When it arrived, it didn't disappoint. Apple's new 20GB iPod improves on almost every feature of the original: hardware, software, earbuds, bundled accessories—the works.

The most obvious upgrade, of course, is the iPod's hard drive. Stuff its 20GB full of MP3 files encoded at 160 Kbps, and you can listen for over a week without hearing the same song twice—if you can stay awake for 24 hours each day. Its capacious 1.8-inch Toshiba MK2003GAH drive (that's our educated assumption—Apple's not saying) provides another valuable function: plenty of room for transferring files from Mac to Mac over the iPod's fast FireWire interface.

Speaking of FireWire, the new iPod includes a remarkably sturdy FireWire-port cover—no more worrying about pocket lint or rainstorms. This nice touch is joined by another: an easier-to-use Hold switch. Always thinking, those Apple engineers.

The new iPod's scroll wheel is no longer a physical wheel as on previous models, but instead uses touchpad technology like that on a laptop. The difference is minor, as this touch-sensitive scroll wheel feels uncannily like the earlier analog wheel—so much so that some of us had to examine it carefully to assure ourselves it wasn't actually moving.

Good looks, great sound, well-built accessories, and room for 4,000 tunes—what's not to love?

PHOTOGRAPHY BY MARK MADEO

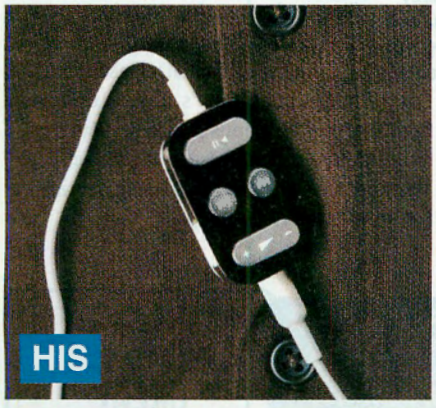
The new iPod 1.2 software (which is backward-compatible with earlier iPods) adds the ability to browse by artist, album, song, genre, and composer; alphabetical listings that ignore the word *the* in band names (yay!); and equalization settings that now carry over from the bundled iTunes 3, as does the new Soundcheck volume balancing. This last feature, however, we found to be less than we'd hoped for, since it mucked with the dynamics of a few of our favorite tunes, blasting the quiet moments and suppressing the loud ones.

At press time, Apple hadn't yet released iCal, so we couldn't test its alarm function. The company says you'll have the option of setting the alarm to beep twice and bring up a visual alert, to just display the alert, or to provide no alert at all. Oh, and there's also a clock, easy access to the bundled Breakout game, the ability to store and access vCard contacts, and tight integration with the over 18,000 audiobooks and other content files from Audible.com, including bookmarks that sync between iTunes and your iPod. All good stuff.

The bundled accessories are also new and/or improved. The earbuds, for example, both sound better and are more comfortable than the original models, which—no matter what Angus Pàidean says (see *Shut Down*, May/02, p96)—were too large. A simple but elegant carrying case is included, as well as a tiny, shiny clip-on remote—a necessity if your iPod's tucked inside the case, where you can't access the scroll wheel. After inserting the remote's proprietary plug in the headphone jack (which requires a firm shove), we found its controls—volume, forward, reverse, stop/play, and hold—large enough for all but the most ham-handed of our editors. The remote's clip, however, appears to be designed for women's blouses rather than men's shirts (which button on opposite sides, in case you haven't noticed): If clipped next to a shirt's buttonholes, it's upside down; on a blouse, it's right side up. Go figure.

The 20GB model solidly reaffirms the iPod's position as the world's best MP3 player.

All in all, the new 20GB model solidly reaffirms the iPod's position as the world's best MP3 player. It sounds great, works great, looks great, and includes great accessories—and if you're a guy, you can always wear a blouse. We'll understand.—*Rik Myslewski*



Upside down.

Right side up.

COMPANY: Apple
CONTACT: 800-795-1000 or 408-996-1010, www.apple.com
PRICE: $499 (SRP)

REQUIREMENTS: Mac with built-in FireWire and Mac OS 9.2.2 or 10.1.4 or later (Mac OS 10.2 or later recommended)

GOOD NEWS: 20GB of storage! New earbuds provide better sound and are more comfortable. Bundled remote and case. software. FireWire-port cover.
BAD NEWS: $499 equals just about one-half of an eMac.

MacAddict RATED AWESOME

PHOTOGRAPHY BY MARK MADEO

Both the EyeTV (left) and the MyTV (right) can turn your Mac into a veritable boob tube, but in the end the EyeTV wins our Emmy.

TV Recorder Showdown

TV RECORDERS

The EyeTV and the MyTV are two low-cost solutions for watching and recording television (or video input) on your Mac, but one is a delight and the other a disappointment.

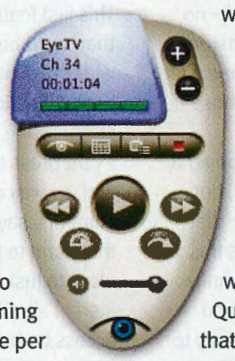
The EyeTV's inputs consist of a coaxial cable connector as well as separate composite video and left and right audio RCA jacks. The MyTV also has a coaxial cable connector and a composite video RCA jack, plus an S-Video port and audio-in and -out minijacks. Whereas the EyeTV pumps video and audio over a single USB cable, the MyTV sends video only over USB; sound travels over a patch cord from its audio output to your Mac's audio input.

Mac addicts everywhere will be screaming, "I want my EyeTV!"

With the EyeTV, live video appears in its own window, viewable at four different sizes or full screen without menus (essentially turning your Mac into a boob tube). Although there's an annoying 2-second delay for channel surfing, you can smoothly rewind and fast-forward live TV via the keyboard. For ad hoc recording, click the Record button; the broadcast streams to your Mac's hard disk without affecting performance on other tasks.

The EyeTV doesn't proactively record programs you're likely to enjoy (à la Tivo). To schedule recordings, you can either manually enter the channel and the start and stop times, or visit TitanTV.com to see what's playing locally in 3-hour increments up to 14 days in advance. Two clicks is all it takes to add an upcoming program to the EyeTV's schedule. You can record a repeating series daily or weekly, but you can't specify intervals such as weekdays only or daily except Sunday.

The EyeTV saves recordings as 320-by-240-pixel MPEG movies at 29.97 frames per second in compliance with NTSC standards (a format comparable to the image quality of VHS), consuming approximately 10MB of disk space per minute. Using Roxio's Toast and a blank CD-R, you can burn recordings to a VCD viewable in almost any DVD player. Unfortunately, MPEG files are impossible to edit with consumer programs, so you're stuck with unwanted commercials. Also, VCD recordings can't exceed the capacity of a CD-R (typically 74 minutes).



EyeTV's snazzy controller makes it easy to veg out with your Mac.

Using the MyTV is a chore compared to using the EyeTV; the MyTV interface is a mess of tabbed panels where you specify video, audio, tuning, and recording settings. These panels share the window with the live video, which you can't resize to full-screen mode (a feature the EyeTV supports). At the standard viewing size of 640 by 480 pixels, video was grainy and jumpy, plus the Mac became sluggish even when we were simply watching cable television.

The MyTV has no scheduling capabilities. To start or stop recording, you must manually click a button. The MyTV records at the same resolution as the EyeTV's MPEG format, but it uses Motion JPEG, which you can easily edit with any QuickTime application. The downside is that MJPEG movies require 2.5 times as much disk space as comparable MPEG files, and converting them for burning to VCD takes hours even on a fast Mac.

The EyeTV's initial release was quite buggy, but El Gato's updates quickly fixed the most egregious problems. With a few future feature enhancements, El Gato will have Mac addicts everywhere screaming, "I want my EyeTV!"—*Owen W. Linzmayer*

EyeTV 1.0.2

COMPANY: El Gato Software
CONTACT: 408-317-1740, www.elgato.com
PRICE: $199 (SRP)

REQUIREMENTS: Mac OS 10.1.5 or later, built-in USB port, QuickTime 5.0 or later (6.0 recommended), Internet connection for optional listing guide

GOOD NEWS: Easy installation and use. True full-screen mode. No system degradation. Schedules recordings manually or from TitanTV.com.
BAD NEWS: Channel-surfing delay. You can't edit recorded movies.

MacAddict RATED ●●●●○ GREAT

MyTV X 1.0

COMPANY: Eskape Labs
CONTACT: 925-249-6504, www.eskapelabs.com
PRICE: $135 (SRP)

REQUIREMENTS: G3, Mac OS 8.5.1 or later, built-in USB port, audio input port, QuickTime 4.x or later

GOOD NEWS: Compatible with OS 9 and OS X. Lets you edit recorded movies.
BAD NEWS: Requires separate audio input on Mac. No scheduled recordings. Tedious tuning. Degrades system performance.

MacAddict RATED ●●○○○ SO-SO

STAR WARS®

TO KNOW THE LIGHT, YOU MUST SEE THE DARK.

JEDI KNIGHT® II: JEDI OUTCAST™

TEEN T Violence
CONTENT RATED BY ESRB

Mac

RAVEN

www.starwars.com jediknight2.lucasarts.com

ASPYR™
www.aspyr.com

LUCAS Arts®

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Screenshots shown are from the PC version.

groBoto 1.5

ART-SYNTHESIS SOFTWARE

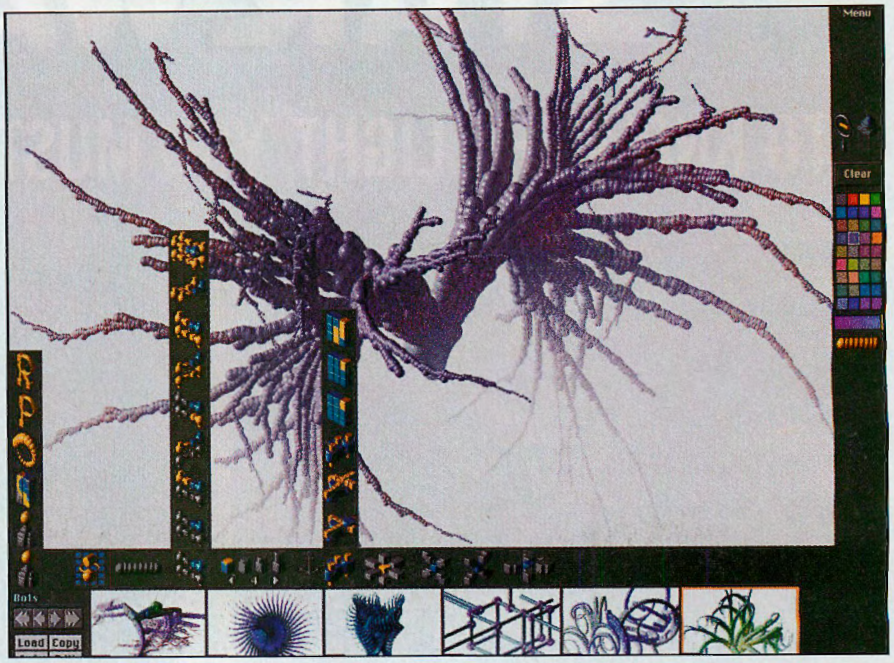
Primarily designed as a KidPix-like painting program for kids, groBoto is a uniquely eccentric 3D toolbox, capable of generating some of the wildest multidimensional images ever to emerge from a Mac.

With complete disregard of Macintosh interface conventions, Groboto presents a surprisingly deep toolkit with a myriad of options and flexibility. The interface is a bit cryptic—the pop-up icon menus make it a little difficult to wrap your brain immediately around the program's core functionality, but once you've spent some enjoyable experimentation time with it, most interface obstacles will melt away. Also, groBoto includes special drawing modes that tap into the wealth of examples included with the program, sucking children (and magazine editors) into the fun from the very first click.

groBoto deserves a place in every 3D arsenal.

groBoto's modus operandi uses predetermined 3D building blocks to paint and construct lush, complex geometrical forms. A variety of controls lets you determine object color, form, size, and placement while drawing. While you can use a wide range of basic shapes (sphere, cube, cone, and the like), the prebuilt collections of complex objects make it easy to whip up a *Star Wars*–like Death Star surface without breaking a sweat. DrawBots are basic 3D shapes that automatically connect themselves while you paint them onscreen; this helps you control the placement of the shapes' organic outgrowths. It's rather difficult to describe this feature without actually experiencing it—suffice it to say that we'd love to see DrawBots-style functionality in professional 3D modeling software. It's that cool.

ON THE DISC
groBoto 1.6 trial



Domo arigato, we dig groBoto.

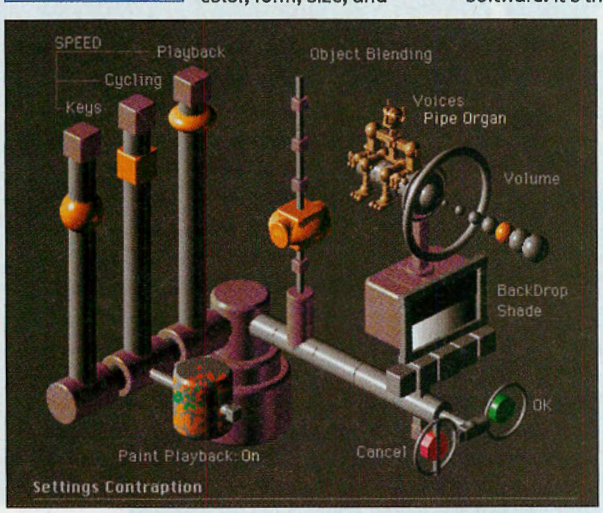
A grasp of basic 3D modeling goes a long way toward helping you control the wacky madness emanating from your mouse, but it's in no way obligatory for creating compelling images with groBoto. Regardless, we'd love to see some standardized 3D-editing tools, such as a movable camera (even though it's working with 3D shapes internally, groBoto limits your view to a fixed 2D view port).

While you paint, the program makes sounds that change based on the chosen shape color, which may amuse the kids but will likely get on adults' nerves rather quickly. There are four built-in sound sets, titled Silly, Weird, Goofy, and Odd. We'd like the option of importing custom sounds in a future version.

Once you've grasped groBoto's wacky interface, you'll be surprised to find it has a powerful engine with quite a bit of programmability. For example, the software ships with a variety of groBoto scenes, which are actually interactive games with a full physical-dynamics simulator. You can easily get under the hood of the physics engine and experiment with different gravity settings, force-vector parameters, and lots of other nerdy controls. Don't look now—it's educational software, too.

While the program ships with an external higher-quality pseudo–ray-tracing renderer (groboVision), you can also export industry-standard file formats including OBJ, 3DMF, RayDream, and POV (the lack of DXF is a surprising omission), allowing you to incorporate groBoto's wild shapes into your own 3D work.

At its incredible bargain-basement price, groBoto deserves a place in every 3D arsenal. If you overlook the program's interface infractions and current lack of Carbon compliance (it runs just fine in the Classic environment), groBoto will provide many hours of creative fun for artists of all ages and skill levels.—*David Biedny*



groBoto's Settings Contraption is one of the coolest preferences screens we've ever seen. Macintosh 2015, anyone?

9

COMPANY: Braid Media Arts
CONTACT: www.groboto.com
PRICE: $39 (SRP)

REQUIREMENTS: Power Mac, Mac OS 8.6–9.x, 25MB of RAM

GOOD NEWS: Inexpensive. Unique 3D-drawing tools. Dynamic physics engine. Lots of fun presets to get you started.
BAD NEWS: No DXF output. Interface confusing at times. No true 3D-editing tools.

MacAddict RATED GREAT

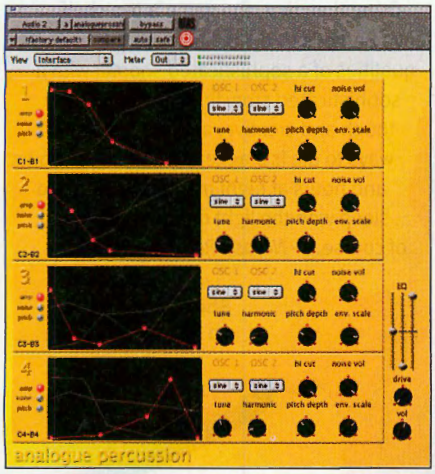
Pluggo 3

VST AUDIO PLUG-INS

For many people, the amount that Macs and software cost is a lot of dough. Among those individuals are musicians who have to jerk a couple thousand frappuccinos to come up with the money for a decent Mac and an audio sequencer like Cubase. By the time the foam settles, who has the cash to invest in after-market audio plug-ins—the likes of which cost around $300 a pop? Feeling the struggling artist's pain, Cycling '74 has kicked down Pluggo 3, a collection of over 100 plug-ins for Pro Tools LE, Digital Performer, and any audio package that adheres to the Mac VST standard; at $200, it's a steal.

Talk about a Swiss Army knife of plug-ins: Pluggo's got your back with just about every type of effect you can think of—delays, filters, pitch effects, distortion, granulation, spectral effects, modulators, multichannel effects, audio routing, reverb and dynamics, and visual display. Their usefulness ranges from use-them-in-every-session stalwarts such as delay and compression, to some real audio mutators like Spectral Filter, Feedback Network, Granular-to-Go, and Noyzckippr. Pluggo has a plug-in for every mood from peaceful to psychotic.

What really puts the love (and value) in the Pluggo package is the inclusion of 19 Essential Instruments—virtual synth and sampler instrument plug-ins created by eowave, the far-out French developer of the iSynth. Like the effects plug-ins, these suckers include all the modern conveniences—additive synths, analog-modeling drum and percussion synths, theremins, sampling, granular synthesis, FM synthesis, and wave-table synthesis. You can easily combine the software instruments with effects and modulator plug-ins to create enough sonic mayhem to keep you buzzing well into the 23rd century.



Analog Percussion is one of Pluggo's 23 audio synthesizers.

Pluggo can send and receive MIDI information when used with VST, MAS, and RTAS host applications, and it supports host synchronization for VST and MAS users. Pluggo also supports beat-synchronized parameter changes, sample-accurate tempo sync for a plug-in's modulating LFOs (low-frequency oscillators), and other tempo-related settings such as delay time. Also included is M2M, a plug-in that converts MIDI information into modulation data to change the parameters of other plug-ins for all sorts of electronic music jams.

It can be a nightmare to keep track of over 100 new plug-ins via a drop-down menu, but the designers at Cycling '74 are way ahead of the curve on this one in creating the Plug-in Manager. This feature offers an interface not unlike OS 9's Extensions Manager, keeping your hand-wringing and vile Navy curses to a minimum when you try to find your favorite plug-ins.

Is there a catch? Well, some of the plug-ins are the sonic equivalent of leaving a Fillet o' Fish in the glove box for a week or two—they can really stink up your track and render it virtually unusable. Also, the interface quality of the different plug-ins varies from ghetto to professional (spun positively, that means some should be *just right* for you). Pluggo does have a sweet tooth when it comes to processor cycles, and tends to take a good bite of the CPU's available horsepower.

You'll find everything you need, from basic studio processors to truly inspiring weirdness.

All that aside, Pluggo is a unique package that will give the beginner and seasoned pro alike plenty of mileage. You'll find everything you need, from basic studio processors to truly inspiring weirdness, so get busy with it.—*Kent Carmical*

Pluggo's 100-plus audio plug-ins come in all shapes and sizes, and some are undoubtedly just what you need.

COMPANY: Cycling '74
CONTACT: 415-974-1818, www.cycling74.com
PRICE: $199 (SRP), $59 upgrade

REQUIREMENTS: Power Mac, Mac OS 8.6–9.x, 64MB of RAM, VST-compatible host audio app

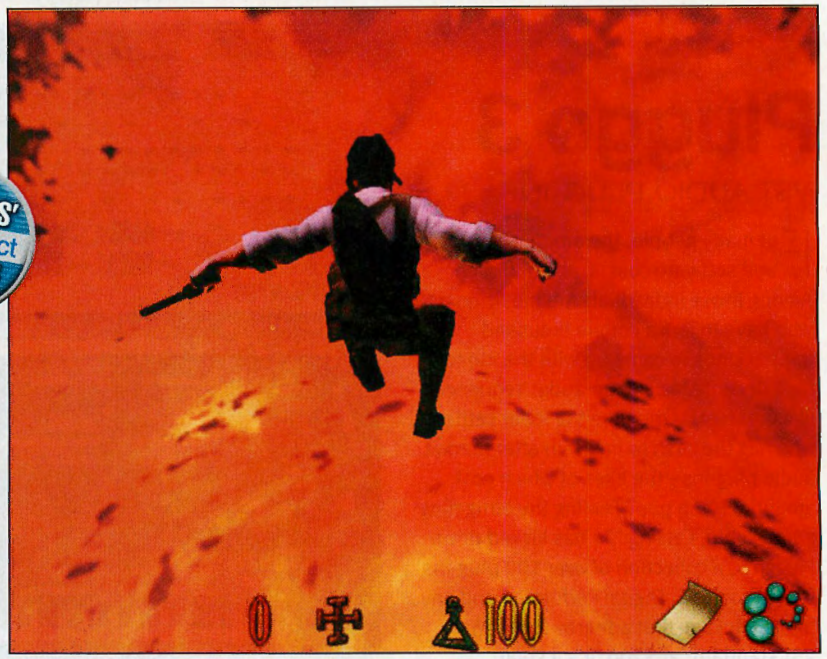
GOOD NEWS: Over 100 plug-ins, including virtual synths and samplers. An incredible deal.
BAD NEWS: Understated system requirements. Some plug-ins are useless.

MacAddict RATED 9
GREAT

Clive Barker's Undying

EDITORS' MacAddict CHOICE

FIRST-PERSON SHOOTER



This is actually one of the better ways to die in Clive Barker's Undying.

Be afraid; be very afraid. Clive Barker's Undying, published by Aspyr Media, is a first-class, first-person shooter with unnerving graphics, a spine-chilling story line, and heart-pumping combat. Based on the book of the same name, this game had us clinging to our keyboard in sheer terror and exhilaration.

The story starts back in 1923, when the star of the show, Patrick Galloway, goes to visit his old war buddy Jeremiah Covenant at his dilapidated estate. On his deathbed, Jeremiah admits to Galloway that many years ago his brothers, sisters, and he messed around with the occult and accidentally let loose a curse that turned his estate into a death-romp and left his family undead. Jeremiah tasks Galloway with the not-so-small challenge of expunging evil from his house and surrounding lands. You'll start in Jeremiah's manor and wind your way through the surrounding areas—including the monastery and the catacombs.

Undying is a sophisticated shooter with a sophisticated story line.

The sheer number of baddies in this game is unreal and, thanks to Clive Barker's twisted mind, severely unnerving. Just some of the highlights are Howlers (which eat Galloway's head like a Slim Jim), Decayed Saints (skeletons that don't know they're dead), and Jiles (evil twins of the Venus's flytrap). You'll fight undead members of the Covenant family—like Lizbeth, the necrophiliac's ultimate fantasy, who (like every prima donna) throws things and bites. We won't give away the rest, but be prepared to fight; the bosses in this game are tough.

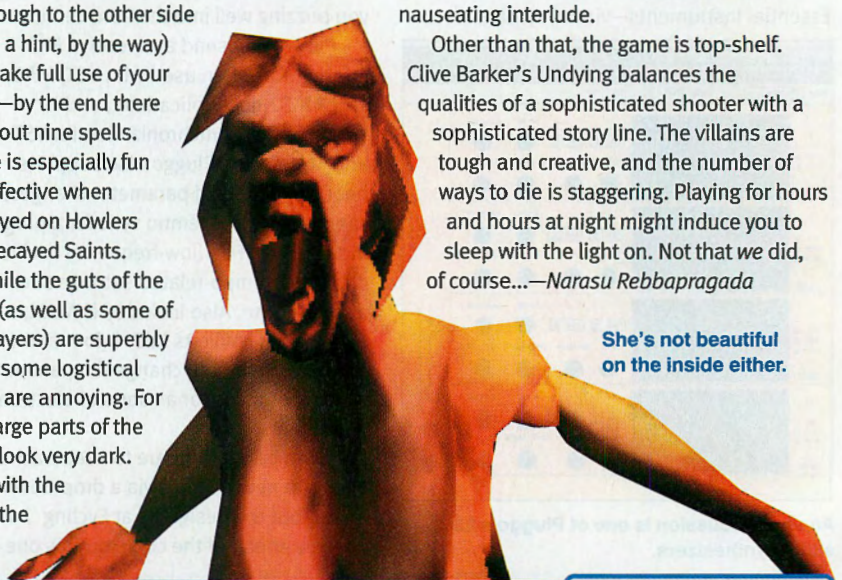
Luckily you have a potent mix of weapons, ammunition, and spells. You start with nothing but a standard six-shooter revolver, the Gel'ziabar Stone, and the Scyre spell, a supernatural flashlight that gives off light in the many dark chasms of the game and offers insight into what's happened there in the past. We highly recommend that you Scyre your way though the game. Many of the dimly lit levels are quite beautiful.

You'll acquire a ton more weapons—shotgun, speargun, Tibetan war cannon, and the like. As always, certain weapons work better on certain foes. In short periods of downtime you can see who's coming to get you—take advantage of this by using toggle and programmable keys for easy, quick access to appropriate weapons.

Don't forget to make use of Items, special ammo that you collect along the way. Sometimes Items are the only way to break on through to the other side (that's a hint, by the way) and make full use of your spells—by the end there are about nine spells. Invoke is especially fun and effective when employed on Howlers and Decayed Saints.

While the guts of the game (as well as some of the players) are superbly grisly, some logistical things are annoying. For one, large parts of the game look very dark. Even with the aid of the Scyre, we found ourselves squinting and straining to see. Plus, dying over and over again gets really old. The Quick Save and Quick Load feature is not efficient. Dying automatically brings you back to the beginning of a level or sublevel, not to your Quick Save point. You'll have to click the Quick Load button to get there. This is an annoying extra step when you're adrenaline-pumped and dying (literally) to kick some Howler booty. Plus, each time you die, you see a grotesque cut scene of how you do so. By the 20th time you get hacked, bludgeoned, and eaten to death, you'll wish there was some way to skip this nauseating interlude.

Other than that, the game is top-shelf. Clive Barker's Undying balances the qualities of a sophisticated shooter with a sophisticated story line. The villains are tough and creative, and the number of ways to die is staggering. Playing for hours and hours at night might induce you to sleep with the light on. Not that *we* did, of course...—*Narasu Rebbapragada*



She's not beautiful on the inside either.

COMPANY: Aspyr
CONTACT: 512-708-8100, www.aspyr.com
PRICE: $39.95 (SRP)

REQUIREMENTS: 400MHz G3 or faster, Mac OS 8.6 or later, 96MB of RAM, 600MB of free hard disk space, Rage 128 or better video card

GOOD NEWS: Great mix of weapons. Great story. Great fear factor.
BAD NEWS: Frustrating save function. Bad visibility. Repetitive cut scenes.

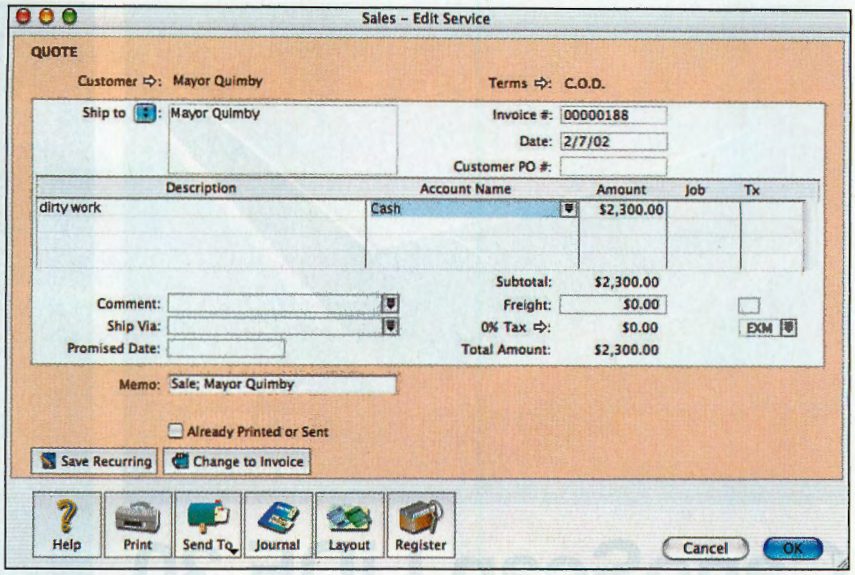
MacAddict RATED 9 GREAT

FirstEdge

SMALL-BUSINESS ACCOUNTING

Accounting may not be the world's oldest profession, but it stands to reason that when the beans start pouring in, counting them is just part of human nature. Besides, poor bookkeeping is a leading cause of failure among small businesses—yes, we gleaned that information from MYOB's Web site where the company hocks accounting software, but it makes sense.

FirstEdge aims squarely at the entrepreneur with a very small business—ideally one with no employees, as the software doesn't provide support for payroll accounting. The program includes 82 diverse Business Starter templates preloaded with appropriate account types for your fledgling bakery, farm, publishing company, religious organization, and even accounting firm (though if an aspiring CPA needs FirstEdge, he or she might be doomed from the start). Our choice (massage parlor) isn't included, but it's easy to customize the templates by adding or removing items via the Easy Setup Assistant (available any time via Setup in the top menu bar).



FirstEdge makes accounting fun and sexy—that is, if you find streamlined organization fun and sexy.

FirstEdge also includes a sample file, which helps you understand how to access information—for example, you can access invoice information from six different places. If you still don't know a long-term liability from a fixed asset, MYOB provides resources such as Accounting 101 (an excellent introduction to bean counting) and the MYOB Learning Center (a thorough, searchable guide to the program). These and other informative materials come in the box and are available on the company's Web site, but if you really need help, you'll have to pay for human tech support ($49 for 90 days of unlimited calls).

FirstEdge streamlines your financial record-keeping and stores it in a central Transactions Journal, which you access through a sensible Command Center window. Within the Command Center, there are three main categories: Accounts, Banking, and Sales. Here, you can access any of the accounts in your Accounts List, manage the Bank Register (print checks, reconcile accounts, and prepare bank deposits), and keep track of the Sales Register (print statements, print invoices, and analyze receivables). Each area of the Command Center includes a direct link to the all-important Transaction Journal, an onscreen ledger where you can view your dealings by category: General, Disbursements, Receipts, Sales, or All. This setup may seem redundant, but having multiple ways of viewing and compiling your records is very handy.

As your ledger grows, you'll appreciate two other options in the Command Center: Find Transaction, which lets you search entries by account, business card, invoice, or job, with optional Advanced Filters for refining your search by criteria such as invoice number, transaction ID or amount range, and/or the date you recorded the transaction. The Reports button launches Index To Reports, a tabbed interface where you can view or generate reports by Accounts, Banking, Sales, and Lists (of accounts, business cards, jobs, tax codes, and so on), as well as define and save custom reports.

FirstEdge aims squarely at the very small business.

FirstEdge's main problem is actually an offshoot of one of its main selling points: MYOB markets the program as a scaled-down version of its more-advanced accounting package, AccountEdge. As such, FirstEdge isn't quite poised to grow with your business, though accounting for a not-so-small business is an upgrade away (see "Deposit *This*," left).

FirstEdge is no replacement for a real-life accountant, but its various organizational powers and detailed, customizable reporting help keep your books in order, making it easier for you to deal with the inevitable real-life accountant.—*Niko Coucouvanis*

Deposit *This*

When your enterprise outgrows the cottage, you'll want to upgrade to AccountEdge ($249), MYOB's more-advanced financial software package. AccountEdge includes features such as network support, integration with Microsoft Excel and Word, a QuickBooks conversion assistant, inventory and order management, payroll and other payables, advanced job tracking and billing, and better reporting on all counts.

Pay attention, and you can save some bacon.

Best of all, the $119 upgrade price makes upgrading from FirstEdge ($99 plus $119 equals $218; AccountEdge proper costs $249) a few bucks cheaper than buying AccountEdge directly. You can take that to the bank.

ON THE DISC
AccountEdge 2 trial

PIG COURTESY OF HEMERA

COMPANY: MYOB
CONTACT: 800-322-6962, www.myob.com
PRICE: $99 (SRP)

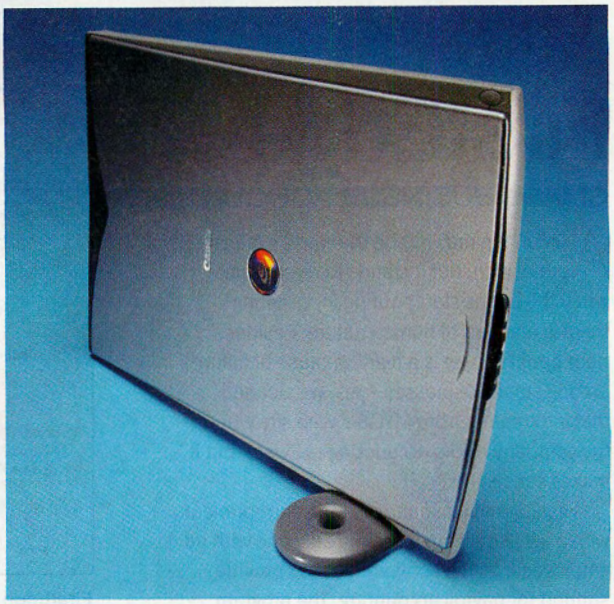
REQUIREMENTS: Power Mac, Mac OS 8.6 or 10.1 or later, 32MB of RAM

GOOD NEWS: Smart, simple accounting for small businesses. Easy upgrade path when the business grows.
BAD NEWS: No payroll accounting. Anyone mildly successful will quickly outgrow the program.

MacAddict RATED ●●●●○ SOLID

X 9

Canon's patented Z-Lid top brings a world of new possibilities to the term *cat scan*.



PHOTOGRAPHY BY MARK MADEO

Canon says you can scan in the upright vertical position. We say, "Good luck!"

CanoScan LiDE 30

SCANNER

Although Canon has made yet another quiet, speedy, and affordable low-profile scanner, the new features it touts are a little mystifying. The Z-Lid expansion top is fairly innovative, accommodating books or other items up to a couple inches tall; as for the clip-on foot stand and its promise of sideways scanning—with the scanner's flat bed propped up vertically—it sounds neat until you try using it. For $99, though, we can't complain (much) about superfluous gimmickry. The LiDE 30 is a capable little scanner that performs well in Mac OS 9 and X—though it needs help in the latter case.

The LiDE 30 lives up to the CanoScan line's well-earned reputation.

Canon's bundled software includes a pretty standard array of tools: ScanGear CS, CanoScan Toolbox, ArcSoft PhotoStudio, ArcSoft PhotoBase, and ScanSoft OmniPage SE OCR; astute readers will note the conspicuous absence of OS X scanning software in that CanoScan kit (only OmniPage is OS X native). At this writing, Canon is promising OS X drivers in the near future, but we're not holding our breath. Meanwhile, if you want to use your LiDE 30 in Mac OS X, you'll either have to shell out six bills (actually, $609) for Photoshop 7.0, $99 for Photoshop Elements 2 (if the final release version works with the plug-in as well as the prerelease copy we tested), or $40 for VueScan (see "Super Shareware," below). And there's always the Classic environment, where the CanoScan Toolbox apps all worked fine, although the OS X ScanGear CS driver wouldn't load in Photoshop or Elements until we shut down the Classic environment.

With that out of the way, the LiDE 30 installed painlessly in both OS 9.2.2 and OS 10.1.5 and was scanning happily within minutes. The Photoshop interface works as advertised, including the option to crop multiple images in one pass (Multi-Crop). For some reason Multi-Crop limits you to 300-dpi resolution, but in addition to generating separate files for each image on the plate, it can correct slight misalignment of individual images. Another nice thing is that the (included) cable draws power from the USB port, reducing the clutter underneath your desk. Like any bus-powered scanner, this one requires the lion's share of a bus's power—if it starts giving you lip, make sure you don't have it plugged into an underpowered or unpowered hub.

Scans are reasonably quick (a 4 by 6 image scanned in a speedy 38 seconds at 300 dpi; 2 minutes, 23 seconds at 600 dpi; and 11 minutes, 50 seconds at the maximum 1,200-dpi resolution). They're also quiet and offer basically correct color. The main draw of the CanoScan family, though, is its adorable, sleek little design—the LiDE stands just over 1 inch tall and is barely 10 inches across. While it won't deflect any bullets, it doesn't feel flimsy, and it's eminently portable at 3.3 pounds. Another stealth feature is the aforementioned clip-on foot stand, which theoretically enables you to use the LiDE on its side so it takes up less space on your desk. This is great for storing the scanner, but in practice we found that positioning items vertically on the glass required more than the usual number of hands.

Pointless frills aside, the LiDE 30 lives up to the CanoScan line's well-earned reputation; it's an excellent choice if you don't need more-practical extras, like a stand-alone OS X driver and support for transparencies or pages greater than 8.5 by 11.7 inches.—*Paul Yoon*

Super Shareware

We're already fond of Hamrick Software's shareware scanner driver VueScan ($40, www.hamrick.com; *Reviews*, Jul/02, p55). Not only can it coerce over 50 otherwise unsupported scanners into working with OS X, but the options in VueScan often outnumber those in the manufacturers' own OS 9 drivers. Of course, all this wouldn't mean squat if VueScan didn't support the LiDE 30—but it does, with no tweaking at all. Just preview, scan, bam. Thanks, VueScan!

ON THE DISC
VueScan 7.5.43

COMPANY: Canon
CONTACT: 800-652-2666, www.canon.com
PRICE: $99 (SRP)

REQUIREMENTS: Mac with built-in USB port, Mac OS 9.x or 10.1 or later (OS X requires Photoshop 7), 64MB of RAM (128MB for OS X)

GOOD NEWS: Discreet and endearing. Multi-Crop is cool.
BAD NEWS: No stand-alone OS X–native scanning. Drivers shown up by shareware.

MacAddict RATED GREAT

iMac G4 800MHz 17-Inch LCD

ALL-IN-ONE MAC

Pretty to look at and easy to hold, the new iMac almost inspires us to cheesy poetry.

PHOTOGRAPH BY MARK MADEO

A scant six months after the G4 iMac (*Reviews*, May/02, p46) first blew us away with its luscious LCD, Luxo looks, and basketball-size footprint, Steve Jobs and the crew at Apple have found another sure-fire way

Another sure-fire way to separate us from our hard-earned cash.

to separate us from our hard-earned cash: a G4 iMac with a wide-format, 17-inch LCD.

Under the hood—er, within the dome, this iMac is nearly identical to the previous model: it has the same 800MHz G4 processor, 256K Level 2 cache, lack of Level 3 cache, 256MB of RAM, 1GB RAM capacity, 56-Kbps modem, 10/100 Base-T Ethernet, Airport support, and omnipotent SuperDrive. What's different in the 17-inch model is, of course, a bigger LCD (with a native resolution of 1,440 by 900 pixels); powering that gorgeous gang of pixels is an nVidia GeForce4 MX chip set with 2X AGP support and 32MB of DDR RAM. The higher-capacity hard drive (80GB, previously 60GB) is just gravy.

Downsides to this machine are hard to come by, so we'll drag out the old favorites: second-monitor support is limited to mirroring the built-in LCD, so you can't expand your usable desktop by spanning a second monitor; the SuperDrive is super, reading and writing DVDs at 6X and 2X respectively, but its CD-RW speeds are lackluster at 24X (read), 8X (write), and 4X (rewrite).

It's easy to find a more powerful machine, but the iMac's impeccable design and bang for the buck, plus that sexy chrome neck's ergonomic possibilities, make it a Mac we'd buy on principle alone.—*Niko Coucouvanis*

COMPANY: Apple
CONTACT: 800-795-1000 or 408-996-1010, www.apple.com
PRICE: $1,999 (SRP)

SPECIFICATIONS: 800MHz PowerPC G4 processor with 256K of Level 2 cache, 256MB of SDRAM, 80GB ATA/100 hard drive, nVidia GeForce4 MX with 32MB of VRAM, SuperDrive, Apple Pro Speakers

GOOD NEWS: It's all good.
BAD NEWS: You, if you don't have one. SuperDrive is slow for CDs.

MacAddict RATED AWESOME

X 9

The only True USB KVM & Peripheral Switch

MiniView™ III USB KVMP Switch.

IOGEAR's new MiniView™ III USB KVMP features a trendy, patented design to save you money and desktop space!

Its smooth body protects the most advanced KVM technology available. Whenever you choose to push the button on the KVM itself or use Hot Key control from your USB keyboard, you will simply control your multiple computers with the same Monitor, USB Keyboard and Mouse. This savvy KVM includes On Screen Display and allows you to easily share additional USB peripherals. It seems too good to be true, but here it is.

Available with 2 & 4 ports. (Models GCS1712 & GCS1714)

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Contact Info. 23 Hubble Irvine, CA 92618 Phone: 949.453.8782 Fax: 949.453.8785 www.iogear.com

CoolMac Keyboard

KEYBOARD

The aptly named CoolMac Keyboard has all the keys you need without the bulky board.

PHOTOGRAPH BY MARK MADEO

CoolMac Keyboard? Well, duh! One look at this thing tells you the inventors exhausted their creativity designing it, so when it came time to name the beast all they could do was grunt *Cool...Mac...Keyboard.*

How cool is this keyboard? Anatomically, it's a full QWERTY keyboard complete with 12 function keys; Escape, Forward Delete, and CD Eject keys; and two sets of Command, Option, and Control keys, one set on either side of the space bar. Cast in pliable silicone, this keyboard doesn't involve a board at all—it's completely flexible, so you can roll it up like a piece of paper, albeit a chunky one. That's because it's adorned with a grid of raised rubber key-squares and a 1.5-by-3.5-inch block at the top edge, where the circuit board lives—this is coolness, after all, not magic.

We christened our keyboard with a healthy beer spill and kept typing.

Functionally, typing on cast silicone takes some getting used to. Pressing the keys is easy enough, but they give you almost no feedback, so if you're used to a regular keyboard you may miss the audible and/or tactile clicks that accompany typing. Like those of a regular keyboard, however, the CoolMac's F and J keys sport tiny raised bumps so you can get your bearings without looking at the keys. Since it's just a keyboard, the CoolMac doesn't require any drivers, though the company says some features (mainly the Eject key) don't work in pre–Mac OS 9 systems.

Novelty goes a long way—especially when the device in question retains most of a typical keyboard's functionality and adds other features like portability and water resistance (if you must know, we christened ours with a healthy beer spill and kept typing).

We won't be replacing our Apple Pro Keyboards with CoolMac boards anytime soon, but we'll keep one handy for the next time we need to bring along a lightweight, flexible, water-resistant keyboard. LAN party, anyone? *—Niko Coucouvanis*

COMPANY: Crywolf
CONTACT: 866-266-5622 or 858-277-9653, www.coolmacstuff.com
PRICE: $55.43 (SRP)

REQUIREMENTS: USB-equipped Mac, Mac OS 8.6 or later

GOOD NEWS: Looks and feels cool. Water resistant. Light, slim, and flexible for ultraportability.
BAD NEWS: Keyboard's weird feel is tough to get used to.

MacAddict RATED 4 GREAT

HiFi-Link

HOME-STEREO CONNECTOR

Your Mac already sounds good—HiFi-Link makes it sound great (kick-ass home stereo not included).

PHOTOGRAPH BY MARK MADEO

Getting good stereo sound out of your Mac is easy—just plug in a good set of speakers. But what if you want *great* stereo sound? As they say on TV, think outside the box—in this case, that means attaching an external processor to convert the raw audio signal into audible sound outside the Mac, where you can escape interference from the computer's electronics.

If the proof's in the pudding, Bill Cosby would be all over this thing.

That's right: Electrical interference lurks inside your Mac, emanating from the motherboard and all the components (hard disks and optical drives, video controllers, and whatnot). We never minded the degraded quality of music played through our Macs—frankly, we never really noticed it, at least until we tried piping the same tunes out through Xitel's HiFi-Link. This Snickers bar–size widget receives the pure audio signal over USB and decodes it en route to your home stereo, which connects to the HiFi-Link via any standard 1/4-inch-stereo–to–stereo-RCA cable—such as the professional-grade 30-foot cable Xitel includes in the box (it's a good one, too: fully shielded, with gold-plated RCA jacks).

If the proof's in the pudding, Bill Cosby would be all over the HiFi-Link. Every track we played—MP3 files, Internet radio, even direct from CD—sounded better through the HiFi-Link than it did when we connected the Mac directly (via a 1/8-inch-stereo–to–stereo-RCA cable) to the stereo. The main drawback is the potential for audio-signal degradation if you're doing processor-intensive work while jamming your tunes. But this is hardly a deal-killer, as we've seen iTunes itself skip a beat while the host Mac chewed busily through a demanding rendering task in the background.

Even if you've already got too many gadgets and gizmos to plug into your Mac, serious connoisseurs of sound will make room for the HiFi-Link. *—Niko Coucouvanis*

COMPANY: Xitel
CONTACT: 512-331-5799, www.xitel.com
PRICE: $59.95 (SRP)

REQUIREMENTS: Mac with built-in USB port, Mac OS 9.0.4 or later

GOOD NEWS: Better sound quality than you can get through a Mac's onboard audio out.
BAD NEWS: Untrained ears can hardly detect the difference.

MacAddict RATED 4 GREAT

Creature

SPEAKER SYSTEM

Woka woka woka—audiophiles will dig Creature as much as PacMan fans will.

PHOTOGRAPH BY MARK MADEO

Although JBL's three-piece Creature may not look like any set of speakers you've ever seen, its high-quality sound is easy to recognize. Its full-range sound allows a complete range of tones across all kinds of music. However, it's a little pricey for its class.

The Creature looks like some futuristic object manifested in a large curved bulge resembling Inky, Blinky, Pinky, and/or Clyde (you know, the PacMan monsters). Clearly the audio engineers took a design note from Apple on this one—the Creature complements the iMac's clean and polished look.

On the 9-inch woofer are two bullet-shaped dials for bass and treble. Conveniently placed small notches let you easily balance both dials in the middle for a solid combination. Even at high volumes, the woofer handles deep tones very well and didn't give us any distortion.

The tweeters' substantial sound surprised us, given that they're only about 1 inch in diameter. The left speaker sports a unique and high-quality volume control: one small metallic button crescendos the sound, and another lowers it. Touching both buttons at the same time mutes the whole system until you press that combination again, a feature that impressed us.

Overall the trio packs a lot of punch. Listening to a rap CD, we could clearly distinguish a subtle stopwatch ticking underneath a heavy bass line, a sound that comes out as distortion—or doesn't come out at all—on other small speakers. If you don't mind paying a premium for a great design, the Creature is for you. But when compared with a pair of speakers that cost a fifth the price, they're not five times better. *—Cyrus Farivar*

COMPANY: Harman Multimedia
CONTACT: 877-266-6202, www.harmanmultimedia.com
PRICE: $129.95 (SRP)

REQUIREMENTS: Any Mac with a headphone jack

GOOD NEWS: Excellent design. Good sound. Good external controls.
BAD NEWS: Kind of expensive.

MacAddict RATED GREAT 9 X

Cruzer

FLASH-MEMORY DRIVE

SanDisk's Cruzer makes it easy to grab your data and hit the road.

PHOTOGRAPH BY MARK MADEO

We'll take this opportunity to declare flash memory—and the ensuing market of ultraportable USB minidrives packing up to half a gig of the stuff—the floppy disk of the 21st century. It's everywhere. SanDisk, widely known as the go-to company for flash memory cards of all genera, enters the fray with the Cruzer: allegedly the first microsize drive offering the added convenience of removable media for versatility and easy upgradability.

The Cruzer performs like a champ—albeit a slow one.

A handy slider switch on the Cruzer ejects the SD (Secure Digital) flash card and simultaneously retracts the USB connector from the device's other end. The retractable plug is a nice touch, especially from the portability angle—at least until you find yourself with a stack of SD cards to browse and you discover that you can't remove the flash card from the device without disconnecting the whole unit from your Mac. The included 3-inch USB extender, which will save wear and tear on the USB port, eases our ire at this situation.

Limited removability aside, the Cruzer performs like a champ, delivering its claimed plug-and-play operation on supported versions of both OS 9 and OS X. The drive is bus powered, so no external power is required, even if you connect it via an unpowered USB hub.

Cool-looking and convenient as the Cruzer is, the truth remains that USB stands for Unusually Slow Bus, and flash memory is even slower (filling the 64MB SD card took over 2 minutes). The Cruzer best suits folks who use SD media in other devices (especially digital cameras) and those who require the cryptographic security of SD media. *—Niko Coucouvanis*

COMPANY: SanDisk
CONTACT: 408-542-0500, www.sandisk.com
PRICE: $79.99 (SRP)

REQUIREMENTS: Mac with USB port, Mac OS 9.1 or 10.1.2 or later

GOOD NEWS: Doubles as a portable SD reader for in-the-field photo transfer.
BAD NEWS: USB is way slow.

MacAddict RATED SOLID 9 X

The Hot List

The best of the best from recent reviews. If the editors of *MacAddict* went shopping, this is what we'd buy.

Software

Audio

Roxio Toast with Jam 5
$189.95 (SRP), $99.95 (upgrade from Toast 5 Titanium), Sep/02, p49
Burn CDs, MP3 CDs, DVDs, VCDs, and edit audio.

Games

Ambrosia Software Escape Velocity: Nova
$30 (SRP), Sep/02, p48
Enjoy the perverse thrill of galactic domination.

Aspyr Medal of Honor: Allied Assault
$50 (SRP), Oct/02, p43
WWII first-person shooter is a surefire classic.

Aspyr Return to Castle Wolfenstein
$49.95 (SRP), Aug/02, p42
What's more satisfying than killing zombie Nazis?

Aspyr The Sims Hot Date
$29.95 (SRP), Sep/02, p46
The Sims obey Petula Clark and go downtown.

Graphic Simulations Black and White
$50 (SRP), Jun/02, p54
The battle between good and evil can really be a blast.

MacPlay Icewind Dale
$49.99 (SRP), Aug/02, p51
Beautifully rendered RPG offers deep gameplay.

Graphics & Layout

Adobe GoLive 6.0
$399 (SRP), $99 (upgrade), Aug/02, p39
Adobe's Web-site builder picks up new features.

Adobe InDesign 2.0
$699 (SRP), $149 (upgrade), $300 rebate for owners of QuarkXPress 3.0 and later, May/02, p50
Look out, Quark—Adobe's rival layout tool kicks ass.

Adobe Photoshop 7
$600 (street), $149 (upgrade), Jul/02, p46
Picture-perfect pixel pusher moves to OS X.

Macromedia Dreamweaver MX
$399 (SRP), $199 (upgrade), Sep/02, p44
The best Web-site creator gets even better.

Macromedia Flash MX
$499 (SRP), $199 (upgrade), Jul/02, p51
It started in animation; now it can do anything.

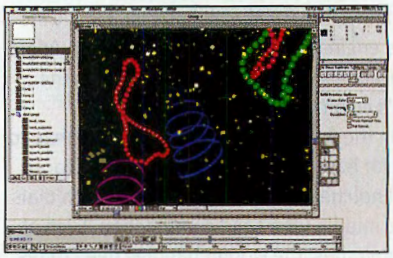
Productivity & Utilities

Dantz Retrospect 5.0
$79 to $499 (SRP), Aug/02, p50
Indispensable backup software goes Mac OS X.

Diamondsoft Font Reserve 3.0
$89.95 (download), $99.95 (boxed), $49.95 (upgrade), Sep/02, p55
Pure organizational bliss for the true font fiend.

Video & Animation

Adobe After Effects 5.5
$649 (SRP), $99 (upgrade from 5.0), $199 (upgrade from 3.x and 4.x), May/02, p49
This motion-graphics stud improves its 3D powers.



Apple DVD Studio Pro 1.5
$999 (SRP), Oct/02, p55
Essential DVD-burning app gets better—*a lot* better.

Electric Image Universe 4.0
$995 (SRP), $695 (for owners of Softimage, Maya, Lightwave, Cinema 4D, or 3D Studio Max), $349 (upgrade from 3.x), $449 (upgrade from 1.x and 2.x), Jun/02, p58
There's a reason why this is *the* 3D app: It's great.

Hardware

Audio

Altec Lansing XA 3021
$99.95 (SRP), Sep/02, p56
The look is way-cool retro; the sound is up-to-date.

Griffin Technology PowerMate
$45 (SRP), Sep/02, p55
Like Exec Editor Cathy Lu: beautiful *and* talented.

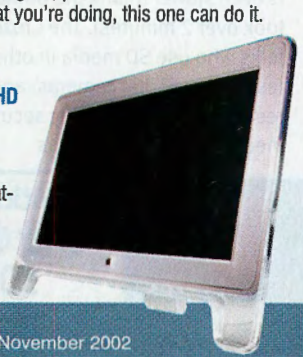
Digital Cameras

Olympus D-520 Zoom
$299 (SRP), Sep/02, p45
Want an entry-level digicam? Look no further.

Olympus E-20N
$1,999 (SRP), Aug/02, p43
If you know what you're doing, this one can do it.

Displays

Apple Cinema HD Display
$3,499 (SRP), Aug/02, p40
This 23-inch, flat-panel beauty inspires lust.



Sharp LL-T1820 LCD
$1,199 (SRP), Sep/02, p56
Slim and stylish, this 18-incher displays a billion colors.

Input Devices

Kensington StudioMouse
$59.99 (SRP), Oct/02, p54
This programmable mouse is perfect for graphics pros.

Printers

Brother 1870N
$699 (SRP), Aug/02, p45
This 19-ppm networkable laser printer works great.

Epson Stylus Photo 2200
$699 (SRP), Oct/02, p42
The most stunning photo printer we've ever tested.

Samsung ML-1210
$199 (SRP), Jun/02, p53
At this low price, anyone can afford a laser printer.

Storage

CMS Peripherals ABS Plus
$237 to $699 (SRP), May/02, p59
Hate to back up? With this baby, it's almost fun.

EZQuest Cobra Slim 60GB
$629 (SRP), Jul/02, p56
This gorgeous FireWire hard drive proves even storage can be sexy.

Other World Computing Mercury Elite 160GB
$349.95 (SRP), Sep/02, p53
Handsome, sturdy drive is whisper quiet.

TDK veloCD
$315.99 (SRP), $275 (street), Jul/02, p54
FireWire-equipped CD-RW drive is freaky fast.

WiebeTech MicroGB 40GB
$399.95, bare case $159.95 (SRP), Jul/02, p56
A cool anodized-aluminum FireWire hard drive holds speedy innards.

Systems

Apple PowerBook G4 800MHz
$3,199 (SRP), Aug/02, p38
The world's best laptop just got even better.

Handspring Treo 180
$599 (SRP), $399 (with service), Aug/02, p44
It's a cell phone, it's a PDA, and it's undeniably cool.

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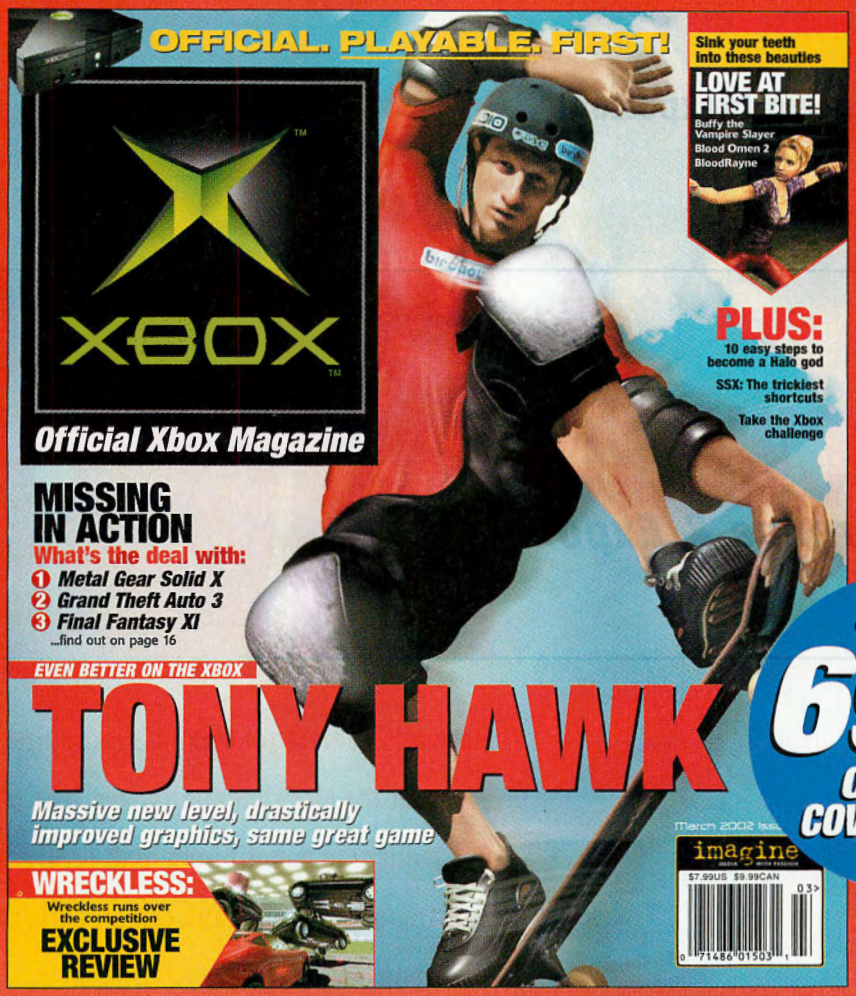

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GOT A QUESTION? NEED ADVICE? ask us WE CAN HELP

GET THE RED OUT

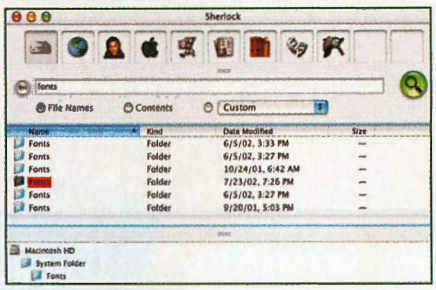
Can you get rid of red-eye in iPhoto?

Don't you hate it when your friends look possessed? When you're taking photographs in low light, the flash reflecting back from your subjects' retinas can create a devilish red cast in their eyes. iPhoto's Red-Eye button at the bottom of the iPhoto window (see below) can remove this effect. It works best when the whole eye has gone red.

FONTS IN X-ILE

How can I transfer fonts from Mac OS 9 to Mac OS X?

There's more than one way to skin a cat, and more than one place to put a font in Mac OS X. Putting fonts in the Mac OS X › Library › Fonts folder will make them available to everyone. Putting them in the Mac OS X › Users › *user folder* › Library › Fonts folder will make them accessible only to a specific user. The best way to make fonts easily accessible, however, is to open the Desktop (Mac OS 9) folder and navigate to the Mac OS 9 System Folder's Fonts folder. Putting fonts in this folder makes them available to apps launched in both native Mac OS X and Classic mode.

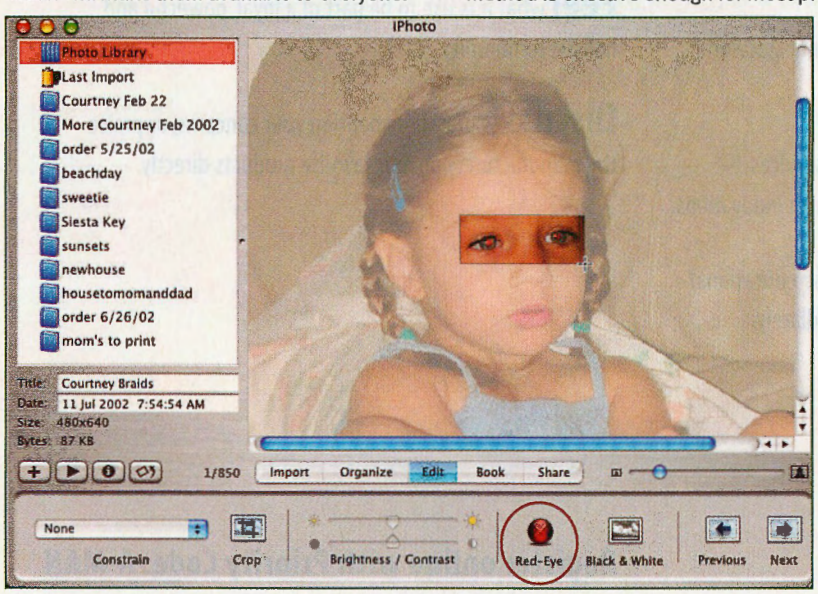


Where, oh where, do my Mac OS X fonts go?

CHECKS AND BALANCES

What's the difference between Mac OS X's command-line utility FSCK and commercial utilities like Norton Disk Doctor?

FSCK (File System Check) is a traditional Unix tool for checking and repairing the file system on disk drives. It serves the same purpose as Symantec's Norton Disk Doctor (in Norton SystemWorks; $129.95, www.symantec.com), but FSCK is not written specifically for the HFS+ (hierarchical file system plus) file system native to Mac OS X. FSCK works by translating HFS+ to UFS (Unix file system) and back again to check and repair the disk. This method is effective enough for most problems, but commercial utilities like Disk Doctor find and fix more file system and disk problems, and do so more efficiently, by using tools created to interact directly with HFS+.

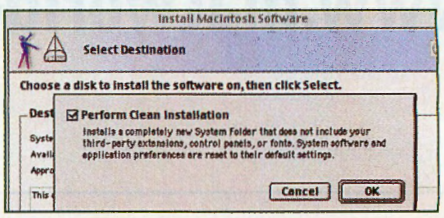


Exorcise your child's demons with iPhoto's Red-Eye button.

CLEAN LIVING

What is a clean install?

A clean install installs all your system files from scratch but leaves your user files (applications, documents, media) untouched. This is different from, say, reinstalling the Mac OS system software, which just adds system files that it may be missing or that need updating. If your computer's system files are damaged, reinstalling system software won't fix them. In Mac OS 9 and earlier, the Mac OS installer has an Options button that lets you select a Clean Installation. This method puts a brand-new System Folder on the computer, while keeping the previous one (now renamed Previous System Folder) on the drive. In Mac OS X, you'll have to upgrade to Mac OS 10.2 (Jaguar) to get the clean install option.



As the saying goes, a clean install fixes all.

SPARE PARTS

Where can I find parts for old Macs?

You wouldn't scrap a vintage Ford Mustang just because it needed a new motor, so why write off your vintage Mac just because it needs a new disk drive? While you can go to an Apple Authorized Service Center for the repairs, it's more fun to do the work yourself, as with the vintage Mustang. Check out the popular Web site Low End Mac (www.lowendmac.com) for information on refurbishing an old Mac. Once you know what you need, Web sites like Sun Remarketing (www.sunrem.com), AllMac.com (www.allmac.com), and even eBay (www.ebay.com) are great places to find parts.

WHEN LIGHTNING STRIKES

How do you protect your Mac from lightning?

A good surge protector—and not the $6 Home Depot model—is a must. The power line, the modem, and the Ethernet port are all entry points for electric surges to seek and destroy your Mac. For complete protection, get a surge protector that shields all your ports, like the

Protect your Mac from those no-good, maleficent surges.

Belkin Surgemaster Gold series ($59.99 street, www.belkin.com) or the Tripp Lite Protect It 810N Surge Suppressor ($32 street, www.tripplite.com). Remember: While lightning can't strike via Airport, it can render your Base Station useless in a hurry.

TAKING A TCPDUMP

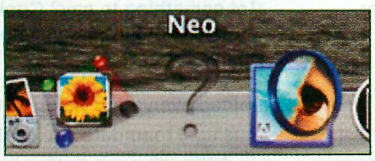
What is TCPDUMP?

Commonly referred to as a packet sniffer, TCPDUMP is a Unix command-line tool that intercepts and displays information about every packet of data that travels in and out of your computer. It's a handy tool for investigating network trouble. Understanding packet traffic is an art unto itself and can take years to master. For example, if you open a Terminal window and type `sudo tcpdump -i en0`, press Return, and then enter your root password, you will see a long cryptic list describing what is happening on your Ethernet port. To understand the method behind the madness, try Brian Hill's MacSniffer (free beta version, http://personalpages.tds.net/~brian_hill), a graphical front-end utility for TCPDUMP.

? MARKS THE DOCK

What does a question mark in the Dock mean?

Think of the Dock as a boathouse for floating aliases. When you drag a file, folder, application, or disk volume to the Mac OS X Dock, it remembers the name, location, and proper icon of the dragged item and links the item to a thumbnail in the Dock. If the Dock can't understand the proper name or location of an item, it replaces the thumbnail with a question mark; this tells you it can't find the original item. You'll most likely get a question mark when you delete an item from the computer without removing it first from the Dock. To fix this problem, simply remove the question mark from the dock by dragging it to the Trash and redrag your original item (that the Dock couldn't find) back to the Dock.

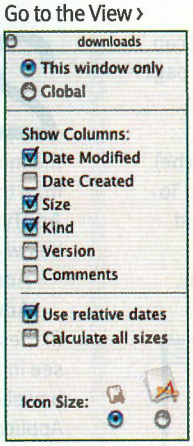


A secret message from the Riddler or a misplaced file? You decide.

A WINDOW WITH A VIEW

How do the settings for window views work in Mac OS X?

Mac OS X offers Icons, List, or Columns views. You can customize these views by varying icon sizes and arrangements, or (in list view) the number and order of descriptive columns. Go to the View › Show View Options window. Click the This Window Only button to alter settings for an individual window. Choose settings for each view category by clicking Global. In List view, rearrange the columns by double-clicking and dragging column headings.



Give every window its own look.

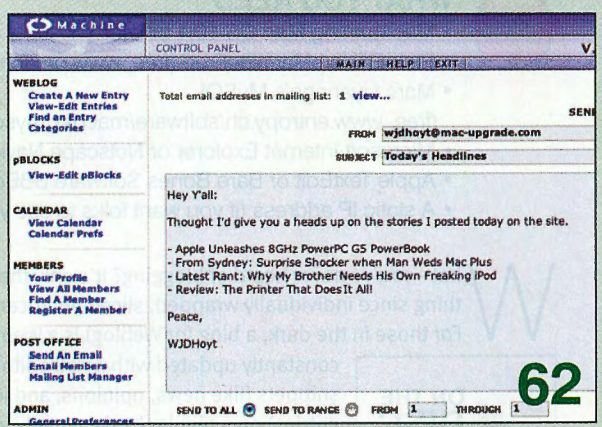
Submit technical questions or helpful tips directly via email (askus@macaddict.com) or c/o *MacAddict*, 150 North Hill Dr., Brisbane, CA 94005.

Six years of tech support for Apple, Power Computing, and a Texas school district have given Buz Zoller Mac superpowers.

This Month

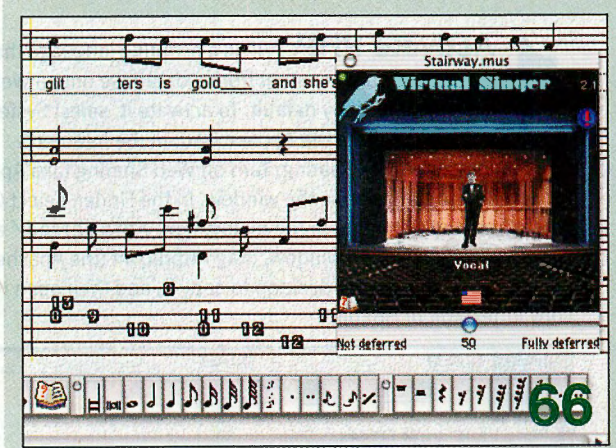
62 Create and Serve Your Own High-End Blog

Apple took away your free Mac.com site, but they can't take away your opinions. Use OS X to create and serve your own Weblog site for free and tell everyone what you think.



66 Make Your Mac Sing

Miss those days when dear ol' mom sang you to sleep? Now your Mac can serenade you into dreamland (or at least fits of giggles).



Difficulty Ratings

No whining—anyone can do this!

It'll take some effort, but you can do it.

This stuff's for the pros.

Create and Serve Your Own High-End Blog

by Todd Stauffer

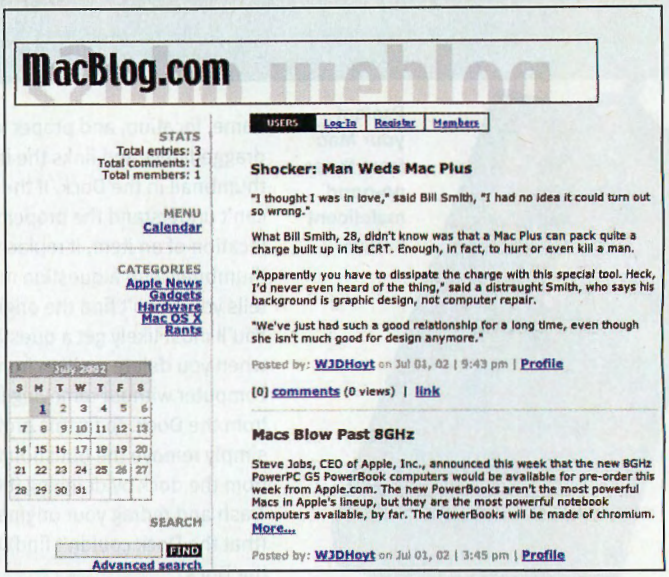
TOUGH

WHAT YOU NEED

- Mac running Mac OS 10.1 or later
- Rick Ellis's pMachineFree (free, www.pmachine.com)
- Marc Liyanage's MySQL (free, www.entropy.ch/software/macosx/mysql)
- Microsoft Internet Explorer or Netscape Navigator
- Apple TextEdit or Bare Bones Software BBEdit
- A static IP address (if you want folks to see your site)

ON THE DISC

BBEdit 6.5.2 demo, MySQL, Netscape (OS X) 6.2.3, Internet Explorer X 5.2.1, and pMachineFree 2.1



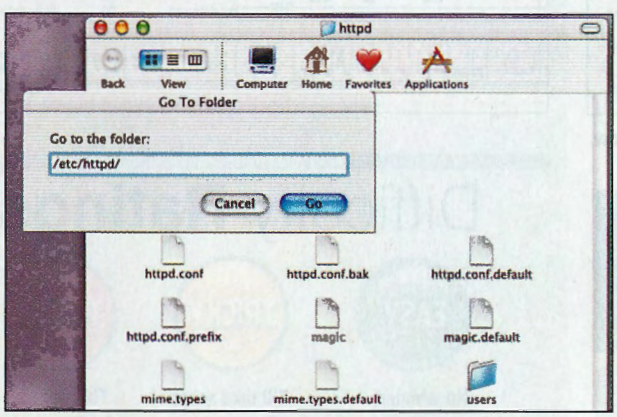
Got something to say? Cook up and host your own advanced MySQL-PHP blogging site on your Mac using Mac OS X's built-in Apache Web server.

What—you've never heard of blogging? It's only the hottest thing since individually wrapped, sliced American cheese. For those in the dark, a blog (or Weblog) is a Web site that's constantly updated with small editorial snippets (like news, opinions, and journal entries) on a regular basis, usually in a fun, chatty way. However, unlike a typical Web site, a blog allows you to post updates via a Web interface, rather than having to wrap your rants and raves in complex HTML code and then upload everything via FTP. This allows bloggers (those who supply the musings) to update site content from anyplace with a Web connection.

Although push-button blog sites abound (check out Blogger.com or LiveJournal.com), the real power comes in rolling your own. With Mac OS X, getting a sophisticated blog site up and running won't cost you a cent in software or extra server fees. You can turn any Mac running OS X into a blog-site server using X's built-in Apache Web server software, as long as you're not afraid to face (gulp!) the Terminal. We not only tell you how, we also walk you through creating your own blog site and building a community of repeat visitors. If you've got something to say, here's a way to unleash your thoughts from your own virtual soapbox.

1 Activate PHP

PHP is a scripting language that can dynamically post content from a database onto a Web page. OS X disables it by default. To activate it, select System Preferences from the Apple menu; in the Internet & Networking pane, click Sharing. Turn off Web Sharing (aka Apache) for now if it's on, and close the window. In the Finder, select Go To Folder from the Go menu; in the dialog, type `/etc/httpd/` and click Go. In the resulting window, drag httpd.conf (the Apache configuration file) to your desktop to copy it, and then open the copy in TextEdit or BBEdit.



To find a deeply rooted file (like the Apache configuration file) fast, use the Go To Folder command.

2 Edit Apache

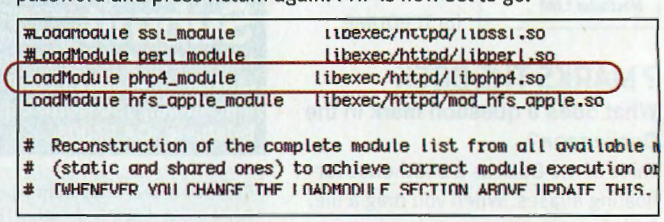
Look for the module line `#LoadModule php4_module libexec/httpd/libphp4.so`. Delete the pound (#) symbol at the front of the line (this represents an Apache comment) to activate the module when you relaunch Web Sharing (Apache). Delete # from the line `#AddModule mod_php4.c`, too. Look for the line `AddType application/x-tar .tgz` and insert these two lines below it:

```
AddType application/x-httpd-php .php
AddType application/x-httpd-php-source .phps
```

(If these lines are already present, delete the # symbols you'll see in them.) Then save the file. To copy this edited version to the bowels of OS X, launch the Terminal (look in the Utilities folder in Applications) and type:

```
sudo cp ~/Desktop/httpd.conf /etc/httpd/httpd.conf
```

Press Return. When prompted for a password, enter your admin password and press Return again. PHP is now set to go.



To enable PHP, we deleted the # (comment) symbol from this line, activating the LoadModule directive.

3 Tweak MySQL

This software serves as a database for your content. Before you install it, perform this tweak. Note: MySQL (Jaguar) already includes a mysql user, so just install MySQL and move on to step 4. Open System Preferences and click Users in the System pane. In the resulting window, click New User and type *mysql* for the short name, type anything you want for the long name, type in a hard-to-crack password (and memorize it), and click OK to create a new user. Now install MySQL by double-clicking its PKG file. Then open the Terminal and change the directory of the mysql user folder by typing this:

```
cd /usr/local/mysql
```

Run the MySQL command-line installation script by typing this:

```
sudo ./scripts/mysql_install_db
```

Type your admin password when prompted and press Return. Then change the ownership of all the MySQL files to the mysql user by entering:

```
sudo chown -R mysql /usr/local/mysql/*
```

Launch MySQL by typing:

```
sudo ./bin/safe_mysqld -user=mysql &
```

Now create a new MySQL admin root password by entering:

```
./bin/mysqladmin -u root password new password
```

(Make sure *new password* is different from the password you created for the mysql user account to protect your database.)

```
[localhost:/usr/local/mysql] tod% mysqladmin -u root password gog45fur
```

Make sure your MySQL admin password is different from your mysql user password.

4 Set Up pMachine

Unzip pMachineFree (the content-management software you'll use to run your blog site) and open the pMachineFree folder. In the pm folder, open the file config.php in TextEdit or BBEdit. In the document, type **localhost** between the set of quotation marks for hostname, enter **root** between the quotes for dbusername, enter your MySQL admin password (not the mysql user one) between the quotes for dbpassword, and save the file. Then rename the pMachineFree folder with a relevant blog name—it'll become a part of your URL (we named ours myblog). Then copy the entire folder to the main Library › WebServer › Documents folder.

config.php

```
<?php

# DATABASE VARIABLES
# If you do not know what these values should be, please contact
# your hosting provider.  Most problems occur as a result of
# an error in this file.

# HOST NAME OR SERVER ADDRESS
# Usually this is the name of your domain (www.yoursite.com).
# In some instances the hostname will instead be "localhost".
  $hostname = "localhost";

# MySQL USERNAME
# This is the username you use to access your MySQL database.
# Note: This is usually NOT the same as your FTP username.
  $dbusername = "root";

# MySQL PASSWORD
# The password used to access your MySQL database.
# Note: This is usually NOT the same as your FTP password.
  $dbpassword = "gog45fur";
```

Before you use pMachine, configure these three bits of information to carve a path for your file uploads.

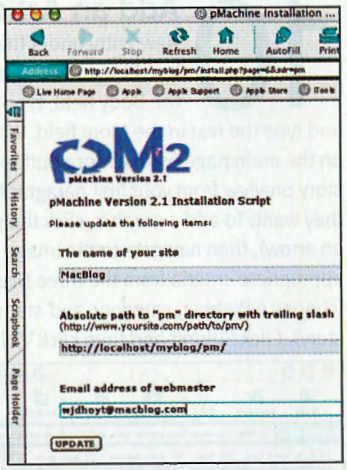
5 Check pMachine

Open System Preferences. In the Internet & Network pane, click Sharing, then click Start under Web Sharing in the resulting window to turn Apache on. Launch your Web browser, enter http://localhost/*your blog name*/pm/install.php in the address field, and press Return. If you configured PHP properly, you should see the pMachine Installation Script's front page. Click Next Page. If MySQL is configured correctly, you'll see notification that you can access the database server and that you've created the database. Click Next Page.

Roger, Houston...PHP is working and pMachine recognizes it.

6 Set Up the Blog Details

In the next few pages, you'll move through a series of assistant-driven steps to build the pMachine database. When you get to the Preferences page, enter a name for your site, the direct path that leads to the pm folder (use a real URL or IP address if your Mac has a domain name), and your for-public-consumption email address in the fields provided. Click Update and then click Next Page until you get to the Admin account page. Choose a user name and password that's different from your Mac log-ins, enter both along with your name and email address in the fields provided, and click Next Page. In the Success page, note the URLs for your blog's home page and administration page. Finally, return to the Finder, go to Library › WebServer › Document › *your blog-site name* › pm and delete the file install.php.



Type your nitty-gritty details in the preferences page of pMachine's installation setup.

Blogwash—The 411 on Blogging Lingo

PHP (PHP HYPERTEXT PROCESSOR) A server-scripting language that enables a script to plug dynamic information (such as data stored in a database) into a Web page as it's displayed to the user.

MYSQL An open-source version of SQL (structured query language), an IBM-developed language for accessing items in a database. MySQL is a popular Web-based database for dynamic Web sites.

APACHE The most popular Web server available, this is the underlying technology for Mac OS X's Personal Web Sharing feature.

HTTPD.CONF As Apache launches, it reads this file to configure itself and add any features or settings specified by the server administrator.

SERVER ADMINISTRATOR That's you, dawg!

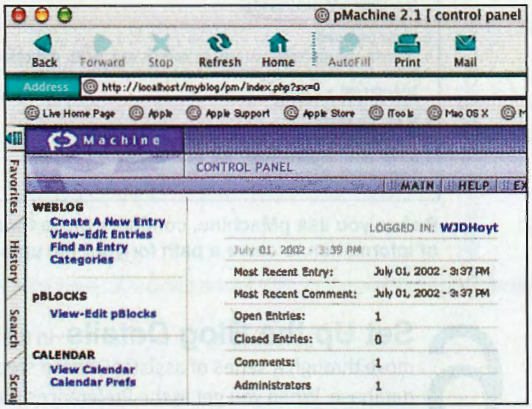
7 Build Your Site

Whew! Now that all the Unix crappola is out of the way, you can start building your site. Go to your blog's home page—pretty bare bones, eh? Time to fix that. To add stories to your blog, call up its admin interface in your browser by entering http://localhost/*your blog name*/pm/index.php. Note that if your Mac is Web connected, you can access your blog's home page via http://*your IP or domain*/*your blog name*/weblog.php and the admin page at http://localhost/*your blog name*/pm/index.php from anywhere. Otherwise, you can only access your blog locally or over a LAN.

Ta-da! It ain't exactly rockin' (yet), but here's the indication that your blog site is ready to receive info.

8 Access Mission Control

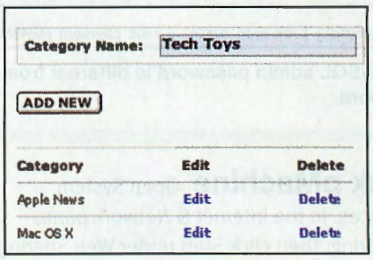
Log in to your site with your new admin user name and password, and you'll be whisked off to the Control Panel page, where you can view your site's statistics and make changes. By default all entries show up on the blog's main page, but you can create and assign categories for each entry to group topical interests and organize your site.



The Control Panel interface is like mission control—this is where you'll handle most of your site administration.

9 Create Categories

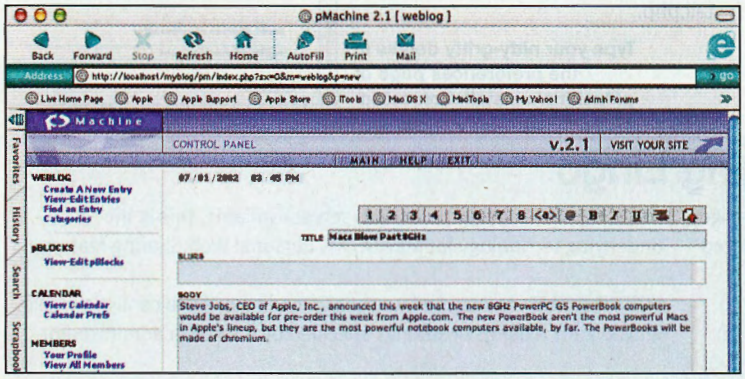
Click Categories under the Weblog section; the resulting page will display one log, creatively named Weblog. (You can create additional logs for the same site, but stick with this one for now.) Click Edit Categories; in the resulting dialog, type a name in the Category Name field and click Add New. Repeat this process until you're thoroughly satisfied with your category quotient.



For better organization and easier navigation to points of interest, create categories for your postings.

10 Add an Article

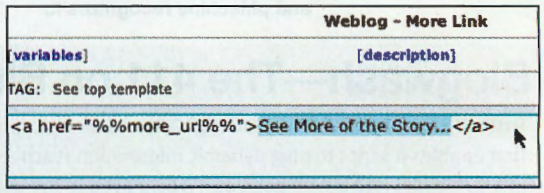
In the Control Panel page, click Create A New Entry under the Weblog section. In the resulting page, type a headline in the Title field. (Don't worry about Blurb for now). In the Body field, type the first paragraph or sentence of your story and type the rest in the More field. Why? Since only the title and body text appear on the main page (with a More button link), you'll conserve space; viewers get a story preview from your first paragraph and can click More to read the full article if they want. To add a graphic, click the graphic upload button (an icon of a page with an arrow), then navigate to the image file you want. To post your story, select the appropriate criteria from the three Display In pop-up menus at the bottom right (choose a Weblog, category, and status—Open means viewers can comment on the story). Click Submit and then click Visit Your Site to see the updated page.



The beauty of blogging? You can just edit your story in a Web browser instead of breaking a sweat with HTML coding and FTP uploading.

11 Make Over Your Site

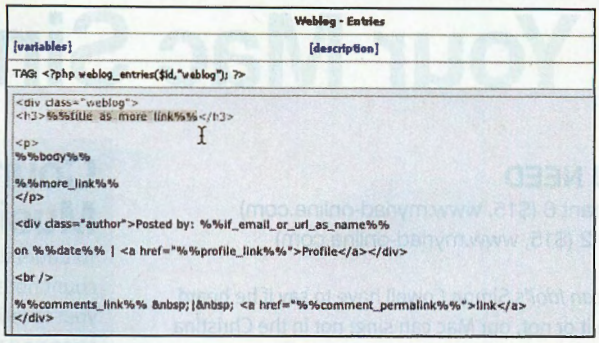
You can change your blog's basic look in two ways: You can edit the HTML-based templates that generate the content, or you can edit the actual HTML page that surrounds the automated output. To edit the templates, click Edit Templates under the Admin section in the Control Panel. In the resulting page, click Edit on the Weblog line. In the resulting page, click Weblog Multi-Entry Templates to open a screen, sectioned by templates that determine how each PHP-generated entry appears on your main page and others. You can change the order of elements, how the author's name appears, the More text, the navigation links, and more by editing the HTML code in the given template.



You can change how each Weblog entry appears on a page by editing its template. Here, we changed the default "More..." link to "See More of the Story..."

12 Add or Alter Variables

If you know a bit about code, you can alter other items not shown in the template by clicking the Variables link, which pops up a window full of variables, and then substituting some code. Sets of double percentage (%%) signs surround variables. For instance, if you want to send visitors directly to the whole story when they click the titles of your Weblog entries, replace *%%title%%* with *%%title_as_more_link%%* in the template.



If code is your second language, you can change the look of your site by altering the variables.

13 Hijack the HTML

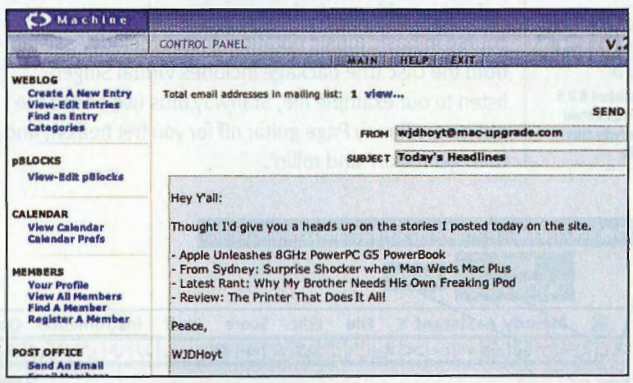
The other way to alter things is to dig into the actual HTML. Look in your main pMachine folder (the one we called myblog) and locate search.php, weblog.php, archives.php, more.php, and comments.php at the root of the folder. These five files are PHP-processed HTML documents that pMachine uses in conjunction with the internal templates to display pages. If you have some HTML knowledge, open any of these pages in TextEdit or BBEdit to change their look and feel. For instance, you can add image code in the weblog.php document to place a logo on your main blog page, or maybe append a copyright to your more.php doc so that each full story page includes an ownership statement.

```
<?php include("pm_inc.php");?>

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://
www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html>
<head>
<title>Welcome to MacBlog.com</title>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />
<script language="JavaScript" type="text/javascript" >
<!--
// pull-down menu navigation.  Used with category menu.

 function gotoCategory(index) {
   document.categories.submit()
 }
//-->
</script>
<link rel="stylesheet" type="text/css" href="pm_style.css" />
</head>
<body>

<img src="images/myblogflag.gif" alt="MacBlog.com" />

<div id="menu">
```

Here, we added our logo, via HTML code (in red), to our blogging site's main page by editing the page's code.

14 Build a Community

pMachine can accept reader comments and even Weblog posts from registered users. Click General Preferences under the Admin section in the Control Panel and scroll down to enable the option that makes it mandatory for users to sign in before commenting (or not—it's up to you). You'll see a lot of other &*%! in General Preferences, too, such as curse-word censorship—enable or disable these options at your whim. Once you have registered users, you can click View All Members to edit member entries or give members greater status privileges so they can post stories. Whatever you do, make sure to keep your blog lively—you'll lose visitors if you don't post regularly. Click the Post Office link to send email to folks on your mailing list and keep them informed of updates.



Let your members know when you post new content by sending out a global email to everyone on your mailing list.

Todd Stauffer, author of *Blog On! Creating Online Communities with Weblogs* and publisher of Macblog.com, is in this whole Mac thing for the money. Poor Todd.

Bitchin' Blogs

Need some inspiration? Check out these spiffy sites.

WIL WHEATON DOT NET (www.wilwheaton.net) You're a *Star Trek: TNG* fan? Get a glimpse of Wesley Crusher's other (real) life (usually some combination of independent film acting and step-parenting).

SCRIPTING NEWS (www.scripting.com) Software developer and Web writer Dave Winer's blog about blogging and scripting and other tech-heady stuff.

SAVOY (www.savoymag.com) The Web site for *Savoy* magazine is one of the most impressive-looking pMachine sites we've seen.

SIMPLY YOURS (www.simply-yours.com) This is a beautifully, simply, flowerfully designed site.

ALT.MUSLIM (www.altMuslim.com) Information overload—this site really takes pMachine customization to its limits and shows what you can accomplish with this tool.

SLASHDOT (www.slashdot.org) One of the granddaddies of community blogs; not only does it have a huge and devoted "news for nerds" community, it uses its own Slashcode software.

MACSLASH (www.macslash.com) This Mac news and issues site uses Slashcode for a look and feel similar to Slashdot's.

Make Your Mac Sing

by Kris Fong

TRICKY

WHAT YOU NEED

- Melody Assistant 6 ($15, www.myriad-online.com)
- Virtual Singer 2 ($15, www.myriad-online.com)

What would *American Idol*'s Simon Cowell have to say if he heard our Mac? Believe it or not, our Mac can sing; not in the Christina Aguilera or Sting sort of way, but more like Britney Spears—a little off, totally manufactured sounding, yet oddly amusing. It can also croon in Spanish, do impressions of Japanese karaoke singers, and adopt a punk British accent. With Myriad Software's Virtual Singer and Melody Assistant, you too can make your Mac sing—everything from "Happy Birthday" to Pavarotti to "Freebird."

Virtual Singer uses a series of algorithms to replicate the human voice, and can sing in different languages, sing as a male or female, possess different vocal characteristics, and even scat jazz tunes. It works with Melody Assistant, an app that generates music using software instrument samples like piano, guitar, bass, drums, violins, horns—you name it. Using both apps, you can write a little ditty, type some lyrics, and press play, and your Mac will sing the song in your choice of language (it supports ten different ones).

We show you how to make your Mac sing the first line of Led Zeppelin's "Stairway to Heaven," accompanied by a flute. If you're unfamiliar with music theory, we also give you a crash course in basic music notation. Install Melody Assistant from the Disc (the package includes Virtual Singer); listen to our example file, Stairway.mus (we added the obligatory Jimmy Page guitar riff for you fret freaks); and then get rockin' and rollin'.

ON THE DISC

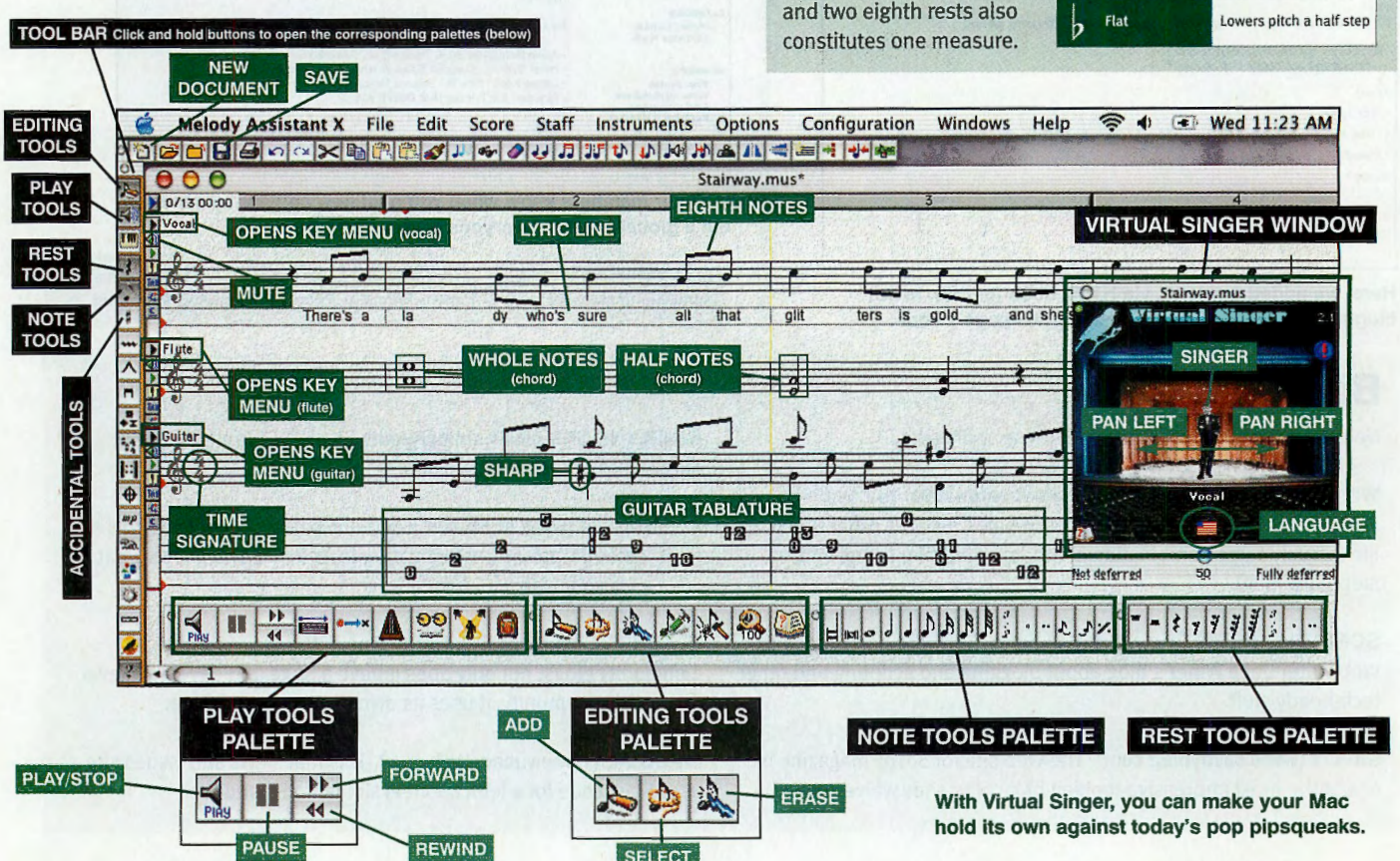
Melody Assistant 6.0.5 packaged with Virtual Singer, Stairway.mus example file

Counting Music

To understand how to count notes and rests, play your favorite rock or pop song and tap your foot to the beat. Count aloud—1, 2, 3, 4—voicing one number per foot tap. In 4/4 time, each tap represents a quarter note and each count of four defines one measure.

An eighth note is two times faster than a quarter note, a half note is two times slower, and a whole note is four times slower. When writing music in 4/4 time, make sure that the note and rest values in each measure add up to a count of four. For example, one whole note completes one measure. Likewise, a combination of one half note, one quarter note, and two eighth rests also constitutes one measure.

NOTES	DURATION
Whole Note	4 beats
Half Note	2 beats
Quarter Note	1 beat
Eighth Note	½ beat
Sixteenth Note	¼ beat
Dot	increases note duration by ½ its value
RESTS	**DURATION**
Whole Rest	4 beats
Half Rest	2 beats
Quarter Rest	1 beat
Eighth Rest	½ beat
Sixteenth Rest	¼ beat
Dot	increases rest duration by ½ its value
ACCIDENTALS	**FUNCTION**
Sharp	Raises pitch a half step
Flat	Lowers pitch a half step



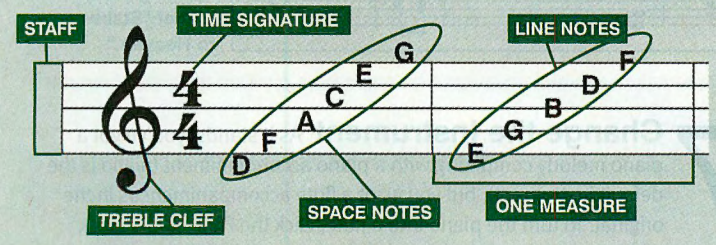
With Virtual Singer, you can make your Mac hold its own against today's pop pipsqueaks.

Take Note

To familiarize you with the geek side of music—theory, that is—here's a quick-and-dirty guide to basic music notation and lingo.

STAFF The staff is made up of five lines and four spaces that hold notes and rests. Each line and space represents a different pitch.

MEASURE A subdivision on a staff, marked by a vertical line. Each measure holds a specific number of beats dictated by the time signature.



TIME SIGNATURE Written as a fraction: The top number represents the number of beats per measure, and the bottom number represents which note gets counted as one beat. In 4/4 time, you have four beats per measure where the quarter note represents one beat. In 3/4 time (aka waltz time, as in "Happy Birthday"), you have three beats per measure with the quarter note getting the beat.

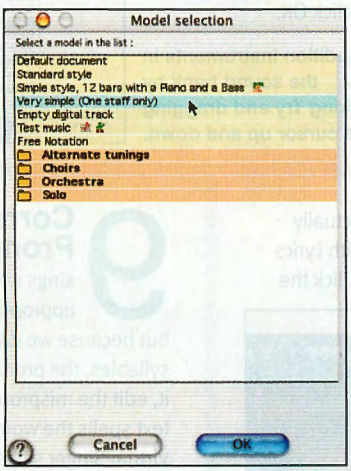
NOTES A note is a single audible pitch; two or more notes played at the same time form a chord. The varied appearance of each note represents a different pitch length (see "Counting Music," p66).

RESTS A rest represents a pause in a piece of music. The varied appearance of each rest stands for a different pause length (eyeball "Counting Music" again).

ACCIDENTALS These symbols, which precede a note, raise or lower the pitch of that note. A sharp (♯) raises the pitch a half step. A flat (♭) lowers the pitch a half step.

1 Get the Staff Together

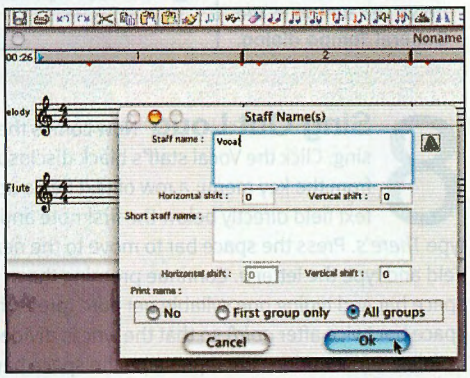
Melody Assistant generates music via music notation. Though an understanding of basic notation helps, it's not a necessity—the app plays a note's pitch according to where you place it on the staff, allowing you to create melodies by ear. (Confused? See "Take Note," above, before forging on.) First create a staff to hold notes. From the File menu, select New; in the resulting dialog, select Very Simple (One Staff Only), and click OK. OS X users get an additional Edit Key And Time Signature dialog; leave the default settings and click OK.



Selecting the Very Simple notation model gives you one staff.

2 Add and Rename

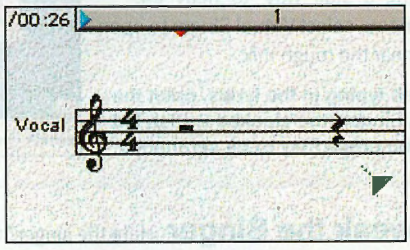
You should have a file containing one staff called Melody. To add the flute accompaniment, select Add Staff from the Staff menu, select Treble (G) Clef from the Staff Type dialog, and click OK. Then type *Flute* in the resulting dialog's New Staff Name field and click OK. Resize the notation window so that both staves are viewable. To rename the Melody staff, click the Melody staff's black disclosure triangle to open its key menu, then select Rename. In the resulting Staff Name(s) dialog, type *Vocal* in the Staff Name field, and then click OK.



Keep track of which instrument belongs to what staff by renaming staves.

3 Get Some Rest

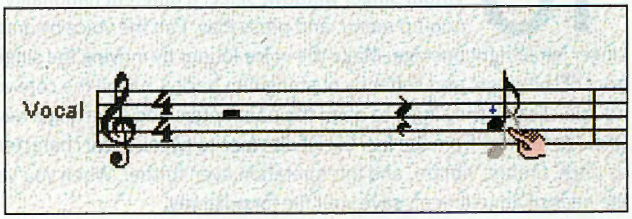
The opening vocal line of "Stairway to Heaven" starts after a count of three beats, so begin the song by entering rests on the Vocal staff. (Still scratching your head? You didn't read "Take Note." Do that now and then come back—we'll wait.) Click and hold the Editing Tools button in the toolbar and select the Add tool from the palette. Then click and hold the Rest Tools button and select the half rest from the palette. Place the rest by clicking the first measure of the Vocal staff. Then select the quarter rest from the Rest Tools and place it to the right of the half rest.



Insert a half rest and a quarter rest to create a three-beat pause in the first measure.

4 Place a Note

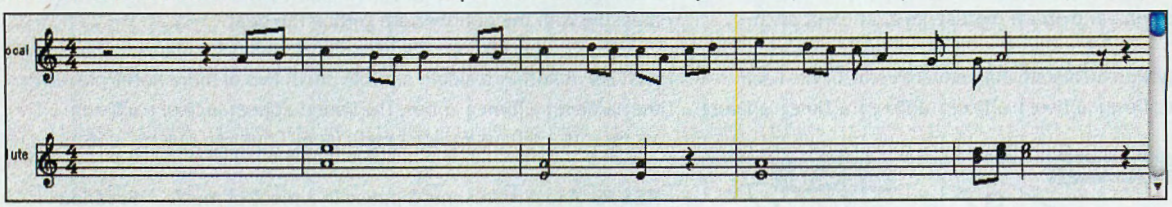
If you're not tone deaf, you can write melodies by placing and then moving notes on the staff, matching the note that the program plays with the note you hear in your head. Click and hold the Note Tools button, select the eighth note, and place that note by clicking the Vocal staff's first measure to the right of the rests. To change the pitch, hold down the Option key, click the note (the cursor turns into a finger), and drag it up and down the staff. For "Stairway," move the note to an A (second space from the bottom). Then place an eighth note on B (middle line) to the right of the A to complete the measure.



To create melodies by ear, push notes to the right pitch by giving them the finger.

5 Full Score Ahead

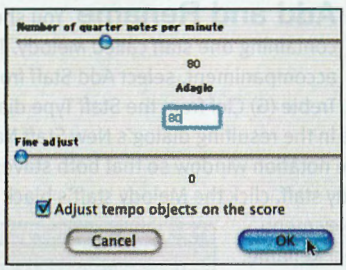
We can waste ink explaining how to plot notes, but you'll get a better understanding of how notes and pitches relate if we show you where to place everything and then have you listen to your work. Therefore, select the same notes and rests shown below and place them in the same locations on your Vocal and Flute staves (you'll have five measures total). To create a chord, place one note directly above or below another, stacking them. If you make a mistake, press Command-Z to undo the deed or use the finger to move a note to the right pitch. Press Play to hear your work (click the Play Tools button to open the palette).



Copy these notes and rests *exactly—they* make up the opening vocal line of "Stairway to Heaven."

6 Slow Down

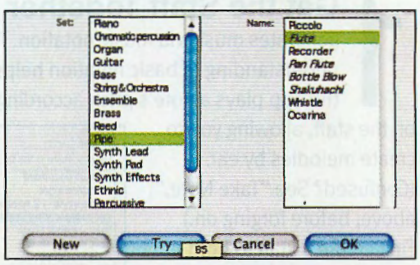
You Zeppelin fans probably noticed that the song sounds faster than the original. That's because Melody Assistant's default tempo is set to 120 beats per minute. To slow down the tempo, select General Tempo from the Score menu. In the resulting dialog, replace 120 with 80 in the text field (the tempo name shifts from Moderato to Adagio), and click OK. Press Play to hear the revision.



Speed up or slow down the tempo in the General Tempo dialog.

7 Change the Instrument

As it stands, you've got a piano melody competing with a piano accompaniment (piano is the default instrument), but you want a flute accompaniment as in the original. To turn the piano into a flute, click the Flute staff's black disclosure triangle, and select Edit Related Instrument from the key menu. In the resulting dialog, select Pipe from the Set list, and select Flute from the Name list. To test-drive the sound, click the Try button and drag your cursor up and down. When you're done screwing around, click OK.



Audition instruments in the sound bank by clicking Try and dragging the cursor up and down.

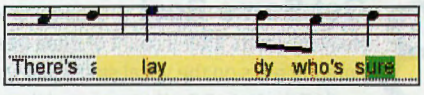
8 Sing Out Loud

Now comes the fun part: making your Mac actually sing. Click the Vocal staff's black disclosure triangle and select Staff With Lyrics from the key menu; a row of text fields appears below the Vocal staff. Click the text field directly below the first note and type *There's*. Press the space bar to move to the next field and type the letter *a*. Continue pressing the space bar and typing one syllable per note (press the space bar twice after *gold*) so that the lyric is divided as follows (the underscore represents the space bar):
la_dy_who's_sure_all_that_glit_ters _is_gold
__and_she's _buy_ing_a_stair_way_ to_heav_en.
From the Windows menu, select Virtual Singer to open it and press Play to hear the rough mix.

Once you finish typing in the lyrics, open the Virtual Singer (the cloaked British lad onstage), and press Play to be serenaded.

9 Correct Word Pronunciation

Virtual Singer sings with a default British accent—appropriate for Zeppelin's Robert Plant, but because we divided some words into single syllables, the pronunciation got messed up. To fix it, edit the mispronounced syllables so that the text spells the word phonetically. For example, Virtual Singer sings "lady" as "loddy" due to the split; fix it by changing the syllable "la" to "lay." Change "sure" to "shure," to fix that blunder, too.

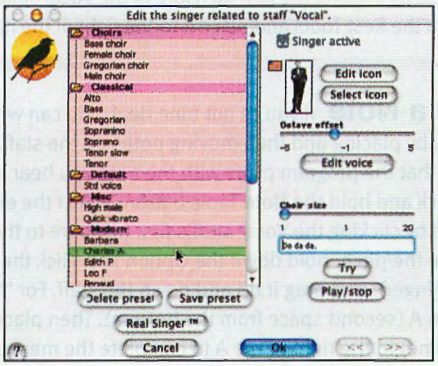


Because Virtual Singer gets tongue-tied on some words, spell the culprits phonetically.

10 Tweak the Singer

Hate the singer? Give him a makeover. To change the language, click the Union Jack in the Virtual Singer window, select a different nationality from the pop-up menu, and press Play. Pan the voice by dragging the singer left or right onstage. Make the voice louder by moving the singer to the front of the stage, and softer by pushing him back. Change the core voice by double-clicking the singer to open the parameters and selecting a new voice (male or female) from the list. Click Edit Voice to tweak vocal characteristics such as pitch, timbre, vibrato, and interpretation even further. When you've reached the peak of amusement, save your file for posterity.

The next time Kris Fong is asked to play "Stairway" on her guitar, she'll whip out her iBook.



To change the voice, choose from a list of male, female, and choir singers—click Edit Voice to make your singer sound more original.

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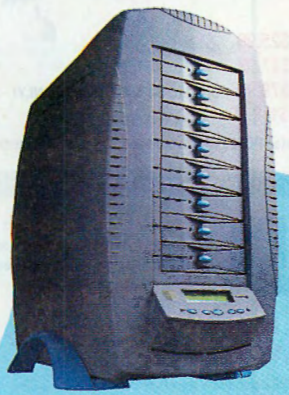

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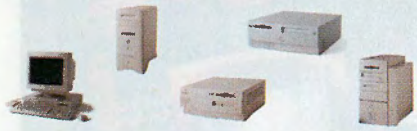

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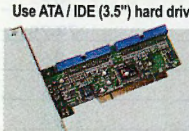

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Memory for Apple G3/G4 PowerMacs, PowerBooks, iBooks, iMacs & Cubes!

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For all PowerMac G3 Models, PowerMac G4 350-500MHz (except G4/466MHz which requires PC133), All G4 Cube Models, and iMac G3/350-700MHz

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128MB $24.99

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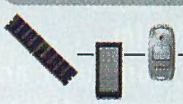
DDR CAS 2.5



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For Xserve, PowerMac G4 Dual 867MHz

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For Xserve, PM G4 Dual 867MHz -1.25GHz 'Mirrored Bay' Models

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PC2700 is backwards compatible with PC2100 and may also be used in models that require only PC2100

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For Apple iBook 300-600MHz, iMac G4/700-800MHz, PowerBook G3 FireWire (yr 2000,aka Pismo), PowerBook G4 models 400MHz - 667MHz

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256MB $37.99

512MB ..... $79.99 For iMac G4 & G3 'Pismo' ONLY!

512MB ..... $119.99 LIFETIME WARRANTY

Above memory operates PC100 CL2 in models utilizing PC100 memory.

PC100 CL2 SO-DIMMs

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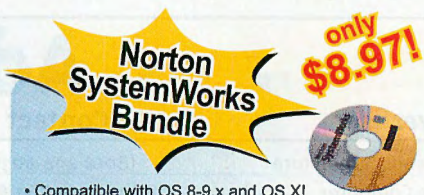
256MB ..... $52.95 256MB Low Profile $61.99*

* Now you can have up to 512MB in your iMac or above PowerBook model! LIFETIME WARRANTY



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MacAddict RATED GREAT

MyMac.com review
5 out of 5

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All OWC Mercury FireWire Hard Drives include Intech's SpeedTools Utility for Mac.

OWC Mercury Elite

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- 2 Year Warranty

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Mercury On-The-Go

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FireWire Cable and AC Power Adapter included.
Drive may be powered by FireWire Bus or with included power adapter.

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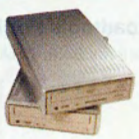

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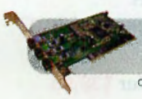

OWC Lucent 3-port PCI FireWire Card $24.97
Compatible with OS 8.6 and higher, including OS X

The OWC 3 Port FireWire PCI interface card adds FireWire support to PCI based Macintosh models or PC's. It is ideal for older Power Macintosh desktop computers or clones as well as PCs that need the advanced technology offered by FireWire. .

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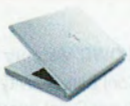

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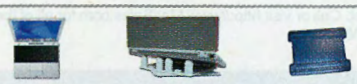

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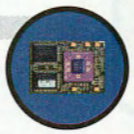

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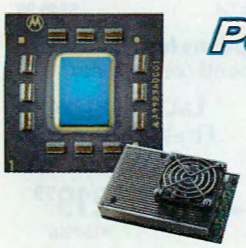

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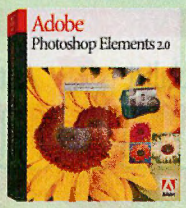

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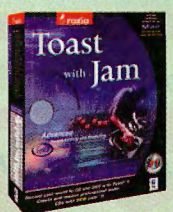

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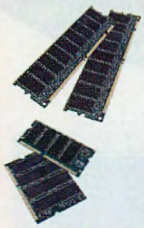

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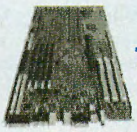

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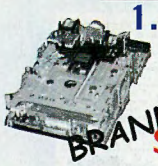

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Newly designed from the inside out with an ultrafast Xserve-based architecture, the dual processor Power Mac® G4 delivers unprecedented performance.

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The NEW Xserve from Apple!

1U rack-mount server!

The Xserve rack-mount server offers phenomenal processing power, jaw-dropping storage capacity and remote management tools!

- Features up to two 1GHz G4 processors
- 2MB DDR Level 3 cache
- Up to 480GB storage
- Dual Gigabit Ethernet
- Mac OS X Server software with an unlimited license—a $994 value!

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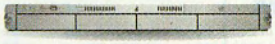

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Xserve 1U starting at

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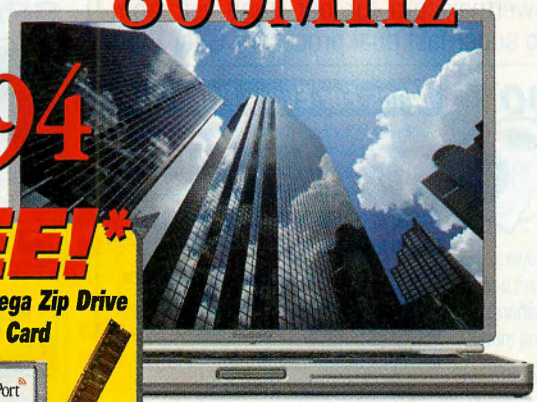

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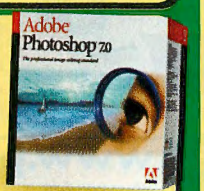

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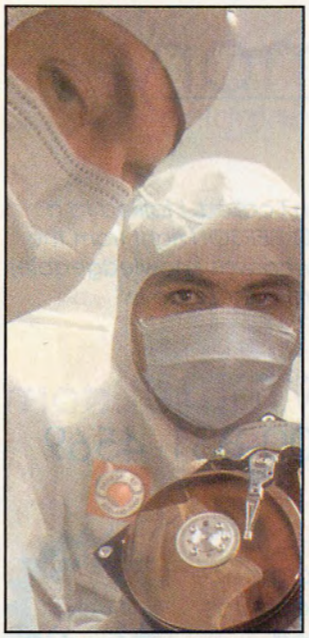

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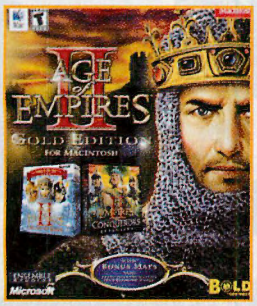

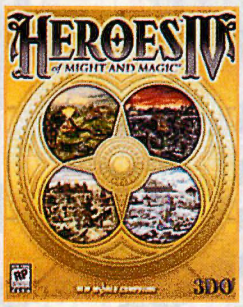

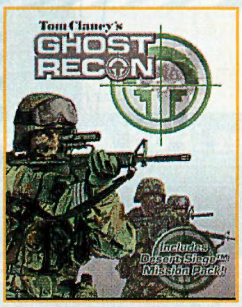

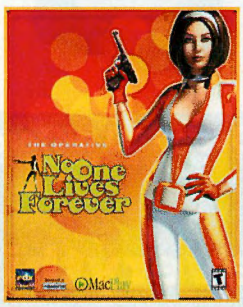

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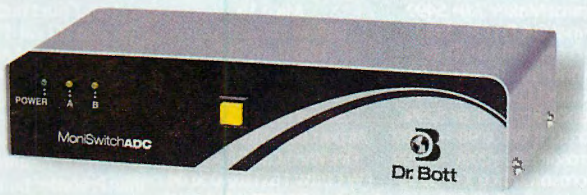

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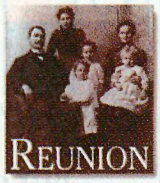

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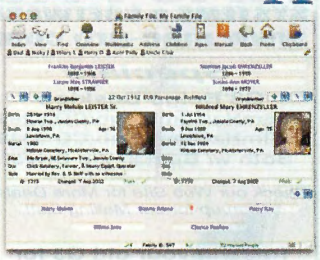

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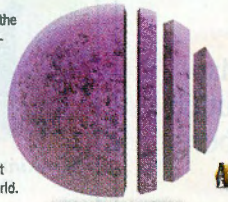

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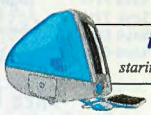

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tell us how you really feel

LETTERS

WHO'S GOT THE SQUEEZEBOX?

I'm a part-time accordionist, and I enjoyed the Accordion Addict cover mock-up in the How-To article, "Solve Graphic Dilemmas Quickly" (Sep/02, p61). So I just gotta ask: Who's the closet accordionist on the staff?—*Ernie Rideout*

Do you even have to ask?—*Max*

ANOTHER SWITCHER STORY

After 16 years of stupidity, I decided to finally make the switch. Your magazine cemented my decision to spend some cash and take home a 933MHz Power Mac G4 and a 17-inch Apple Studio Display. Thanks, *MacAddict*, for swaying the jury.—*Brian Hancok*

Just consider us that jury of your peers.—*Max*

C'mon, everybody, polka!

MIRROR IMAGE

The photo illustration in "Software on the Cheap" (Sep/02, p20) is nice, but don't think for a moment that your adoring public didn't notice you reversed the image. The text on the coins is backwards.

—*John Parker*

!detsuB er'eW—*Max*

NOW THAT'S AN ADDICT

The one magazine I can't give up is yours. I'm writing to let you know the weight is on your shoulders, don't drop the ball now. I'll give up my morning coffee before I go without my monthly fix of *MacAddict*.

—*Jim McCabe*

Give up coffee?! You're a braver man than I, Jim.—*Max*

TORTURE YOUR OFFICE ASSISTANT

I discovered an extra benefit of QuickTime 5.0. If you're on a PC, when you watch a QuickTime movie while running Microsoft Outlook, QuickTime makes the designed-by-Satan paperclip Office Assistant flicker wildly.—*Dave Reynolds*

Dave, you make your namesake (former *MacAddict* editor in chief David Reynolds) proud.—*Max*

CASE CLOSED

I have to have the media card wallet shown in the "Good-Bye, Film" article (Jun/02, p26). Please don't tell me it's a Photoshop creation.—*Ron*

That little case does exist. It's from Case Logic ($6, www.caselogic.com). You can find it on the Case Logic Web site in the Digital Camera Bags section. It's model #DMC2.

—*Max*

A media card–carrying member.

GET A GREP!

Wow, only 50 OS X bugs destroyed in the August 2002 cover feature (p16)? I thought the point of a Mac was to make things simple, usable, and elegant. Well chmod 777 myscript.pl me! Perhaps Apple customers ought to wait until Mac OS X becomes as easy to use as Mac OS 9 before we purchase anything more.

— *David Short*

Sticks and stones may break my bones, but Unix will never hurt me.

—*Max*

QUOTE OF THE MONTH

Don't you hate it when life interferes with your Mac?

—Roulette

QUIZ SHOW

If you haven't already taken The Ultimate *MacAddict* Quiz (Sep/02, p28), what are you waiting for? Some brave souls volunteered (or were volunteered) to reveal their results.

On my planet, the acronym LCD stands for liquid crystal diode not liquid crystal display

—*Tom Burns*

Give yourself an extra Carbon Dated point.—*Max*

I was in the upper end of Colonel Panic. I deem the Super Bowl question unfair due since I was only 1 year old at the time.—*imacfreak*

Why not give me an extra point for recording my answers on an AppleWorks spreadsheet?

—*Ryan Purves*

I was a little let down by my score of 51. I'll do better next time, coach.—*Mike Marlett*

Your 51 is an admirable score, Mike. Good job. Now drop and give me 60!—*Max*

Here's how the *MacAddict* staff fared:

Rik Myslewski, Editor in Chief: Carbon-Dated Terminal Geek
Narasu Rebbapragada, News Editor: Terminal Geek
Niko Coucouvanis, Reviews Editor: Terminal Geek
Leslie Osborn, Associate Art Director: Colonel Panic
Jenifer Morgan, Managing Editor: Colonel Panic
Kris Fong, How-To Editor: Colonel Panic
Chris Imlay, Art Director: Colonel Panic
Cyrus Farivar, Intern: Classic User
Cathy Lu, Executive Editor: Disqualified (Cathy wrote the Geek Quiz.)
Max, Eponymeditor: Geeko Di Tutti Geeki

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.MAC .SKS

Here's what you thought about Apple's July 2002 announcement that previously free iTools services like Mac.com email now cost $99 (or $49.95 for existing iTools subscribers) under the new .Mac plan.

Take your $100 .Mac, your $129 OS X v.10.2 upgrade, and all your swell Mac products and stick them where the sun don't shine. —*Larrytart*

My, my, sir. Mayhap a soothing frosty beverage might quench your fevered ire?—*Max*

I live in Mexico, where it is hard enough to have a Mac and get the software, so I won't be able to pay for this membership even though I would love to.—*Julio Marquez*

Stop acting like Microsoft.—*Lee Harwell*

Hey, gas for Steve's Gulfstream V gets expensive.—*Max*

Hotmail is still free as is Yahoo Mail, so Apple will lose email-only users like myself.—*Barry Karlin*

Have fun wading through the get-rich-quick schemes and Viagra ads to find the one message actually addressed to you.—*Max*

MACADDICT READER POLL

Yes or no: Did you subscribe or are you planning to subscribe to .Mac?

Email poll@macaddict.com with your response or click Reader Poll at www.macaddict.com. Check the February 2003 issue to see the results.

FURRY MAC USERS

I noticed that your article "Clip Hair and Fur Successfully" (*How To*, Sep/02, p62) featured a ferret. We have five ferrets, and a few of them have developed relationships with the household Macs. A few years ago Spot learned how to unplug RJ-11 and RJ-45 cables. Ashling loves to dance on keyboards. Once I found a hard disk renamed as frrrrt.—*Steve Crandall*

Hey, if Koko the gorilla can use a Mac, why not ferrets? There's a novel idea for the Apple Switchers campaign. —*Max*

I didn't do it.

BIG TROUBLE WITH TRO

OMG U SUK!

In the letter titled "HEY U! YUR ENGLISH SUX" (*Letters*, Sep/02, p95), you note that TRO means trouble... wrong, wrong, wrong. TRO means Trow—a character in the Myth game series. The letter by Pugnus Maximus from Rhi'anon is a rare occurrence of Tro Speak, an almost extinct language in the Myth community.—*Malcom*

My bad. IIRC[1], "TRO" meant "trouble" back in the early BBS days when I messaged using quick abbreviations ("tro w/RS-232 port," IYKWIM[2]). Little did I know it had developed another, more-current meaning.—*Max (HHIS[3])*

Think you can do better?

DESIGN A T-SHIRT AND WIN A G4

Enter the HackerThreads T-Shirt Contest

Does the sheer number of crappy T-Shirt designs make you want to puke? Are you convinced that given the opportunity you could do better?

That opportunity is here. Enter the HackerThreads Graphic Design T-shirt contest (www.hackerthreads.com). Design a T-shirt graphic, and if yours is the one that online pollers like the best, you win a Power Mac G4 and $125 for HackerThreads to license your design for a whole year.

Deadline for entry is December 17, 2002. See www.hackerthreads.com for contest details and submission guidelines.

Last year, this guy won a brand-new G4 for designing the T-shirt graphic shown above.

NEXT MONTH

THE EVANGELIST'S TOOLBOX
Learn persuasive arguments that'll convince your friends to abandon their PCs and move to the Mac.

***MACADDICT*'S HOLIDAY WISH LISTS**
Our editors and art staffers show you what they'd want in their holiday stockings.

CREATE AN ANIMATED GREETING CARD
Don't settle for freebie prefab e-cards. Show 'em you care by making your own (without spending a dime).

[1] If I remember correctly [2] If you know what I mean [3] Head hanging in shame

ACCORDIANIST BY LEIGH WEBBER, ADAPTED BY LESLIE; PHOTOS: GEEK AND WALLET BY MARK MADEO, FERRET BY KRIS FONG, T-SHIRT BY W. B. JONES, AND CONTEST WINNER COURTESY OF HACKERTHREADS. THANKS TO MATT OSBORN FOR THE *MYTH*TUDE.

DUMPSTER DIVING

Brainstorming at 1 Infinite Loop, Cupertino, CA

Jaguar: proud, rough, independent. Creature of the mysterious jungles or *las junglas misteriosas*, as they're known in *el barrio de los gatos feroces*. The name makes you proud to run OS 10.2; it makes you feel as though, even when you're away from your mouse, you can take on all who venture your way. *¡Ven hagarrame!* Come and get me!

Ah, but it would have been very different if the following rejected OS 10.2 names had been approved...

IDEAS?

Melinda: Melinda Kovalosovich of Fair Lawn, New Jersey (by all accounts a handsome woman and not shy to speak her mind) made quite an impression on the young Steve Jobs. The year was 1981. Jobs was enjoying a hearty corned-beef-and-hash-in-a-basket breakfast at the opulent Marriot Airport Lounge when Melinda sat down at his table. "Christ, my feet hurt!" she whispered seductively to the young engineer, and so began an assignation that very nearly [redacted]

#2: COELACANTH (A "LIVING FOSSIL," THIS BONY FISH IS BRIGHT BLUE WHEN ALIVE, JUST LIKE AQUA!! (HOWEVER, IT FEEDS ON ROTTING FLESH AND IS VERY RARELY SEEN.

run!

OR

Carl: Everyone—well, almost everyone—eventually loses his* or her virginity. Let's just say for one wag in marketing, a Carl was involved...
EWW! Too much info!

OCELOT → This tiny wildcat is best known for the following factoid, from PBS Kids online: "Even though an ocelot's body is covered with spots, its tail is ringed like a raccoon's!"

*has HUGE CUTE eyes.

How 'bout... RUBBER BOA!?! Among SNAKE Aficionados, this creature is known as the "two-assed snake." (I'm serious!) It's gentle and at the same time horribly vicious.

Imagine... Kirby 2.1.0.S?

Uph... sounds like someone I know

KNIFEY! → "Betta watch it, see!? I'm not shy about stickin' a guy. So you betta ~~treat~~ treat me wit RESPECT!!!"

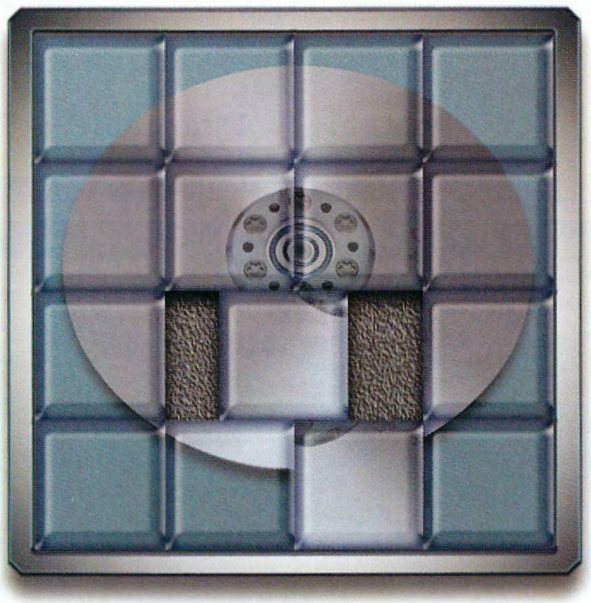
FEDORA

Not a Stetson!

sting!

Steve: 2 words: Big Wazoo! (who wouldn't want a big one?!)

The missing piece of the Mac OS X puzzle



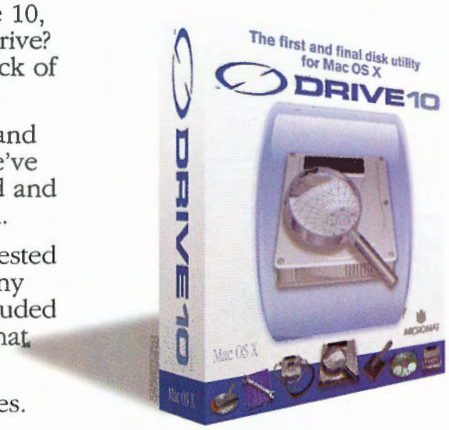
Introducing Drive 10 version 1.1.
Optimizes and defragments your Mac OS X drives and much more.

For Apple's next-generation operating system, you'll need a next-generation disk utility. That's why Micromat has introduced Drive 10, the first and final disk utility for Mac OS X. Problems with your drive? Drive 10 can repair almost any drive problem with one simple click of your mouse. All within Mac OS X's native environment.

And with the introduction of version 1.1, you can now optimize and defragment your Mac OS X drive from within Mac OS X. Plus, we've added a whole host of new repair routines that allows you to find and correct drives problems that other utilities would simply abandon.

Drive 10 is a world-class diagnostic and repair utility. Using time-tested routines developed exclusively for Mac OS X, Drive 10 offers many tools for checking and repairing any drive on your system. The included Drive 10 CD-ROM will boot your machine to repair hard drives that won't even appear on the desktop.

Don't entrust your Mac OS X drive to ancient and outdated utilities. Protect your data and drive safely with Drive 10.



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